
Specifications

Phase 1 Corrective Action Plan Implementation

Commissary/PX Area
Presidio of San Francisco

Prepared for:

The Presidio Trust

34 Graham Street
Post Office Box 29052
San Francisco, California

April 2006

Project No. 9886.000



Geomatrix

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34 Graham Street
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Geomatrix Consultants, Inc.

2101 Webster Street, 12th Floor
Oakland, California 94612
(510) 663-4100

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CERTIFICATION

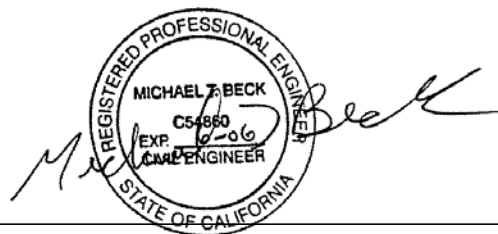
SPECIFICATIONS PHASE 1 CORRECTION ACTION PLAN IMPLEMENTATION

Presidio Trust
34 Graham Street
P.O. Box 29052
San Francisco, California

28 April 2006
Project 9886.000

This report was prepared by the staff of Geomatrix Consultants, Inc., under the supervision of the Engineer(s) and/or Geologist(s) whose seal(s) and signature(s) appear hereon.

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Michael T. Beck
Senior Engineer, PE

**SPECIFICATIONS
PHASE 1 CORRECTIVE ACTION PLAN IMPLEMENTATION
COMMISSARY/PX AREA
PRESIDIO OF SAN FRANCISCO**

DIVISION 1: GENERAL

01110 - Summary of Work
01140 - Contractor's Use of the Site
01275 - Measurement and Payment
01290 - Schedule of Values
01330 - Submittals and Procedures
01400 - Quality Control
01410 - Regulatory Requirements/Responsibility to the Public
01460 - Environment Protection
01500 - Temporary Facilities and Site Controls
01501 - Dust Control
01502 - Storm Water Pollution Controls
01510 - Mobilization and Demobilization
01550 - Traffic Control
01560 - Site Security
01600 - Material and Equipment
01770 - Contract Closeout
01900 - Health and Safety Requirements

DIVISION 2: SITE CONSTRUCTION

02050 - Demolition
02110 - Excavation of Contaminated Materials
02114 - Soil and Waste Stockpiling
02116 - Contact Water Management
02120 - Off-Site Transportation and Disposal
02260 - Excavation Support and Protection
02351 - Backfilling and Grading
02740 - Asphalt Concrete Pavement

ATTACHMENTS

Attachment 1 San Francisco Public Utilities Commission Wastewater Discharge Permit
Attachment 2 Storm Water Pollution Control Plan

DIVISION 1: GENERAL

SECTION 01110 – SUMMARY OF WORK

PART 1 – GENERAL

1.1 DEFINITIONS

The following definitions are used in the specifications and supplement the General Conditions of the Contract.

1. CONTRACTOR shall mean the prime service provider contracted directly with OWNER.
2. ENGINEER shall mean Geomatrix Consultants, Inc.
3. ENGINEER'S Representative shall mean resident project representative or inspector.
4. OWNER shall mean the Presidio Trust

1.2 RELATED REQUIREMENTS

The Drawings, the provisions of the Contract including the General and Supplementary Conditions apply to the Work of this Section.

1.3 PROJECT BACKGROUND

OWNER is proposing to remove soil impacted with petroleum, metals, and polyaromatic hydrocarbons (PAHs) from five areas of the Site. The five areas with impacted soil are shown on the Drawings. The Site is located in the northern portion of the Presidio of San Francisco along Mason Street near the southwestern portion of the Crissy Field Tidal Marsh. The Presidio is a former U.S. Army installation and the Site housed the Presidio motor pool from approximately 1900 to 1984. Historic operations at the Site included storage of supplies, equipment, and fuels to serve and maintain U.S. Army vehicles. Additionally, numerous underground storage tanks (USTs), above ground storage tanks (ASTs), fuel dispensers, and associated conveyance pipelines were located at the Site. Historic operations at the Site resulted in petroleum hydrocarbons releases. Undocumented fill material historically brought to the site contains elevated concentrations of metals and PAHs. Soil and groundwater impacts at the Site were characterized in numerous site investigations and documented in the report by Treadwell and Rollo, Inc. entitled Draft Site Investigation Report, Commissary/Post Exchange Study Area, Presidio of San Francisco, California dated August 2003. The excavation and site restoration work will be performed in accordance with the report by Geomatrix Consultants, Inc. entitled Phase I Corrective Action Plan Workplan, Commissary/PX Study Area, Presidio of San Francisco, California, dated April 26, 2006 and the report by Treadwell & Rollo, Inc. entitled Revised Final Corrective Action Plan, Commissary/PX Study Area, Presidio of San Francisco, California dated April 2006.

Subsurface materials encountered during previous investigations include silty sandy gravelly fill material of varying thicknesses, which overlies a layer of fine to medium grained sand. The fine to medium grained sand layer (commonly referred to as the 1915 sand) appears to have been hydraulically placed from offshore sources to fill the former tidal marsh area in the early 1900s. Native peat and highly plastic silt and clay (Bay Mud) underlies the 1915 sand and generally occurs at depths between 7 and 11 feet below ground surface in the area where work will be performed. Depth to groundwater measured in monitoring wells in the project area generally has been observed between 2.5 and 5 feet below ground surface; the groundwater elevation may be tidally influenced.

The Site is located in a National Park and on land administered by that National Park Service. Special requirements related to protection of resources and visitors of the Presidio are presented in Section 01410 – Regulatory Requirements/Responsibility to the Public.

1.4 CONTRACT SCOPE

CONTRACTOR shall provide all necessary labor, materials, equipment, tools, and protective equipment as required to affect a complete and finished job acceptable to ENGINEER and OWNER and in compliance with all applicable Laws and Regulations. In general, the Work consists of excavation and off-site disposal of petroleum-

impacted soil, and backfilling, grading, and restoring the Site to match existing Site conditions. Specifically, Work under this Contract includes, but is not limited to, the following activities:

Bid Item 1: Mobilization/Demobilization – The lump sum price to be paid under this Item shall be full compensation for labor and equipment mobilization, preparation of all required submittals, preparation of staging and storage areas, establishment of temporary rest room and wash facilities, installation and maintenance of storm water pollution prevention controls, and construction, operation, and maintenance of decontamination facilities. This task also includes protection of miscellaneous items shown on the Drawings and removal, off-Site recycling or disposal, and restoration of temporary roadways on Crissy Field and miscellaneous items shown on the Drawings. This Item includes conducting a pre-construction survey as detailed on the Drawings. This task does not include removal, off-site recycling or disposal, or restoration of asphalt concrete or concrete curbs, gutters, or curb cuts.

Bid Item 2: Traffic Control: The lump sum price to be paid under this item shall be full compensation for providing personnel, materials, and equipment to perform traffic control for motorists, pedestrians, and bicyclists traveling through the Site in accordance with Section 01550 – Traffic Control. This task includes providing flaggers, lighted barricades, and signage. This task does not include construction, maintenance, removal, or restoration of temporary asphalt roadways or temporary asphalt pedestrian paths.

Bid Item 3: Security Fencing – The lump sum price to be paid under this Item shall be full compensation for furnishing, installing, maintaining security fencing in accordance with Section 01560 – Site Security. This task also includes removal of security fencing following completion of the work.

Bid Item 4: Demolition and Off-Site Disposal of Asphalt Pavement – The unit price to be paid under this Item shall be quantified by the total weight in tons of asphalt pavement demolished and recycled or disposed. The unit price shall be full compensation for removal and off-Site recycling or disposal of existing asphalt pavement in the excavation areas at OWNER-approved facilities. This task also includes removal and off-site recycling or disposal of asphalt pavement installed by CONTRACTOR for traffic control.

Bid Item 5: Demolition of Curbs, Gutters, and Curb Ramps – The unit price to be paid under this Item shall be quantified by the total length in feet of concrete curbs, gutters, and curb ramps demolished and recycled or disposed. The unit price shall be full compensation for removal and off-Site recycling or disposal at OWNER-approved facilities of existing concrete curbs, gutters, and curb cuts and any other concrete found in the work area prior to or during excavating contaminated soil. This task also includes removal and off-site recycling or disposal of concrete curbs, gutters, and curb ramps installed by CONTRACTOR for traffic control.

Bid Item 6: Excavate and Stockpile – The unit price to be paid under this Item shall be quantified by the total weight in tons of soil excavated and stockpiled. The unit price shall be full compensation for excavation and temporary on-site management.

Bid Item 7: Load, Transport and Dispose of Impacted Soil (Non-hazardous For Disposal) – The unit price to be paid under this Item shall be quantified by the total weight in tons of non-hazardous soil loaded, transported, and disposed at an OWNER-approved off-Site facility. The unit price shall be full compensation for off-Site disposal of non-hazardous soil.

Alternative Bid Item 7a: Load, Transport and Dispose of Impacted Soil (Non-hazardous Daily Cover) – The unit price to be paid under this Item shall be quantified by the total weight in tons of non-hazardous soil loaded, transported, and utilized at an OWNER-approved off-Site facility as daily cover. The unit price shall be full compensation for off-Site disposal of non-hazardous soil.

Alternative Bid Item 7b: Load, Transport and Dispose of Impacted Soil (Non-RCRA Hazardous) – The unit price to be paid under this Item shall be quantified by the total weight in tons of non-RCRA hazardous soil

loaded, transported, and disposed at an OWNER-approved off-Site facility. The unit price shall be full compensation for off-Site disposal of non-RCRA hazardous soil.

Bid Item 8: Excavation Protection - The lump sum price to be paid under this Item shall be full compensation for furnishing all labor, materials, tools, equipment, transportation, services, and supervision required for designing, furnishing, installing, maintaining, and removing excavation support systems for the protection of adjacent structures, including repair of any settlement-related damage. This task includes excavation protection required to excavate to the initial horizontal excavation extents shown on the Drawings. Excavation protection for additional excavation beyond the horizontal extents shown on the Drawings is included in Task 8a.

Alternate Bid Item 8a: Additional Excavation Protection – The unit price to be paid under this Item shall be quantified by the total installed exposed face of shoring or bracing supplied and installed as excavation protection beyond the initial horizontal excavation extents shown on the Drawings. No payment will be made under this bid item for excavations that are completed without mechanical bracing or shoring. Excavation protection required to excavate to the initial horizontal limits shown on the Drawings is included in Bid Item 8. After excavating to the limits shown on the drawings, the Engineer may require additional excavation. If this excavation occurs in areas requiring shoring, based on the CONTRACTOR's approved Excavation Protection Plan, this additional shoring will be paid under this Bid Item 8a. In areas of additional excavation where mechanical shoring or bracing is not required, based on CONTRACTOR's approved Excavation Plan, excavation protection measures such as sloping or benching are deemed to be included in the CONTRACTOR's unit price for excavation under Bid Item 8.

Bid Item 9: Contact Water Management – The unit price to be paid under this Item shall be quantified by the total volume per 1,000-gallons of groundwater and/or surface water removed from on-Site excavations and soil stockpile areas. The unit price shall be full compensation for pumping, treating, storing, and discharging Contact Water to the SFPUC sanitary sewer system as specified in Section 02116 – Contact Water Management.

Bid Item 10: Import, Place, and Compact Granular Fill Material – The unit price to be paid under this Item shall be quantified by the total weight in tons of Granular Fill Material placed in on-Site excavations. The unit price shall be full compensation for importing, placing and compacting Granular Fill Material as specified in Section 02351 – Backfilling and Grading.

Bid Item 11: Furnish and Install Geotextile – The unit price to be paid under this Item shall be quantified by the total area in square feet covered with geotextile. The unit price shall be full compensation for furnishing and installing geotextile as specified in Section 02351 - Backfilling and Grading.

Bid Item 12: Import, Place, and Compact General Fill Material – The unit price to be paid under this Item shall be quantified by the total weight in tons of General Fill Material placed in on-Site excavations. The unit price shall be full compensation for importing, placing and compacting General Fill Material as specified in Section 02351 – Backfilling and Grading.

Bid Item 13: Import, Place, and Compact Aggregate Base – The unit price to be paid under this Item shall be quantified by the total weight in tons of Aggregate Base placed and compacted on-Site. The unit price shall be full compensation for importing, placing and compacting Aggregate Base as specified in Section 02351 – Backfilling and Grading. This task includes placing and compacting aggregate base for temporary roadways and pedestrian pathways installed by CONTRACTOR for traffic control.

Bid Item 14: Import, Place, and Compact Top Soil – The unit price to be paid under this Item shall be quantified by the total weight in tons of top soil placed and compacted on-Site. The unit price shall be full compensation for importing, placing and compacting top soil as specified in Section 02351 – Backfilling and Grading.

Bid Item 15: Install Asphalt Concrete Pavement – The unit price to be paid under this Item shall be quantified by the total weight in tons of Asphalt Concrete placed and compacted on-Site. The unit price shall be full compensation for importing, placing, and compacting asphalt pavement in accordance with Section 02740 – Asphalt Concrete Pavement. Also included under this Item are striping for temporary roadways and pathways, restoration of striping to match existing in areas of disturbed asphalt concrete, and saw cutting as required to form a clean joint between existing and new asphalt pavement. This task also includes installing asphalt concrete pavement for temporary roadways and pedestrian pathways installed by CONTRACTOR for traffic control.

Bid Item 16: Restoration of Curbs, Gutters, and Curb Ramps – The unit price to be paid under this Item shall be quantified by the total length in feet of concrete curbs, gutters, and curb ramps restored at the Site. The unit price shall be full compensation for restoring concrete curbs, gutters, and curb ramps. This task also includes restoration of concrete curbs, gutters, and curb ramps removed by CONTRACTOR for traffic control.

Bid Item 17: Construct Test Trenches: - The lump sum price to be paid under this Item shall be full compensation for furnishing all labor, materials, tools, equipment, transportation, services, and supervision required for constructing test trenches as described in Section 02110 – Excavation of Contaminated Material.

1.5 FORM OF SPECIFICATIONS

- A. The Work is shown on the Drawings and is further defined in the Specifications herein. Minor and related Work not described or shown, but necessary to the completion of the Work in all respects shall be the responsibility of CONTRACTOR at no cost to OWNER or delay to the Work.

1.6 CONTRACTS

Perform Work under a single Contract with OWNER.

1.7 MILESTONES (WORK SEQUENCE)

- A. CONTRACTOR shall construct Work in stages to accommodate traffic control and site security, and coordinate the Construction Progress Schedule and operations with ENGINEER. Contractor shall:
1. Provide required submittals to ENGINEER for review.
 2. Mobilize and begin Work within 21 calendar days of receiving Notice to Proceed.
 3. Complete all work within 180 days of mobilization.

1.9 MEANS AND METHODS

- A. Means and methods of work performance shall be such as CONTRACTOR may choose; subject, however, to Laws and Regulations and ENGINEER'S and OWNER'S right to reject means and methods proposed which:
1. Will not produce finished Work in accordance with the terms of the Contract.
 2. Are contrary to specific means or method included in the Contract.
- B. The right to reject means and methods of a CONTRACTOR shall not be construed or interpreted as acceptance or control of means and methods by ENGINEER.
- C. ENGINEER'S or OWNER'S approval or failure to expedite the right to reject means and methods shall not relieve CONTRACTOR of his obligation to complete the Work required by the contract.
- D. Total responsibility for control of all means and methods lies with CONTRACTOR for all Work for which it is responsible.

1.10 SUBCONTRACTORS

CONTRACTOR shall not award any work to any Subcontractor without prior written approval of OWNER.

1.11 PROJECT MEETINGS

Pre-Construction Meeting: After award of Contract, at a time designated by OWNER or ENGINEER, CONTRACTOR shall attend a Pre-Construction Meeting. Procedures to be followed, critical work sequencing, submittals, coordination efforts, contract payments and similar matters will be reviewed.

Progress Meetings: During construction, periodic site meetings will be held with CONTRACTOR, major Subcontractors, OWNER, and ENGINEER. These meetings will be held weekly (unless job conditions do not warrant) and may be held more frequently if job progress and needs indicate. CONTRACTOR and major Subcontractors shall have one or more responsible representatives in attendance.

1.13 SPECIAL CONDITIONS

- A. Upon execution of the Agreement, CONTRACTOR acknowledges full understanding of the nature and location of the work, the general and local conditions, particularly those bearing upon availability of labor, water, electric power, roads, uncertainties of weather or similar physical conditions at the site, the conformation and conditions of the subsurface features due to historic activities, groundwater conditions, the character of equipment and facilities needed preliminary to and during the prosecution of the work, and all other matters which can in any way affect the work or the cost thereof under this Contract.
- B. CONTRACTOR further acknowledges satisfaction as to character, quality and quantity of surface and subsurface materials to be encountered from its inspection of the site and from reviewing records of exploratory work made available by OWNER. Failure by CONTRACTOR to become acquainted with the physical conditions of the site and all the available information will not relieve CONTRACTOR from responsibility for properly estimating the difficulty or cost of successfully performing the Work.

Information is available regarding the locations and concentrations of hazardous constituents detected at the site. Copies of the document will be made available to bidders for their review. Failure by CONTRACTOR to become acquainted with all the available information will not relieve CONTRACTOR from responsibility for properly estimating the difficulty or cost of successfully performing the Work. In the event of a conflict between information in the documents provided and the Specifications, the Specifications shall govern. The documents that will be provided are:

- Draft Site Investigation Report, Commissary/Post Exchange Study Area, Presidio of San Francisco, California; Treadwell and Rollo, Inc.; August, 2003.
 - Revised Final Corrective Action Plan, Commissary/PX Study Area, Presidio of San Francisco, California; Treadwell & Rollo, Inc.; April 2006.
 - Phase 1 Corrective Action Plan Work Plan, Commissary/PX Study Area, Presidio of San Francisco, California, Geomatrix Consultants, Inc., April 26, 2006.
- C. CONTRACTOR warrants that as a result of examination and investigation of all the aforesaid data, CONTRACTOR can perform the work in a professional and workmanlike manner and to the satisfaction of OWNER. OWNER assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this Contract, unless (1) such representations are expressly stated in the Contract and (2) the Contract expressly provides that the responsibility is assumed by OWNER.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

PART 4 – PAYMENT

There shall be no separate payment for CONTRACTOR or Subcontractor incidentals pursuant to implementation and compliance with the requirements of this Section. Full compensation for all CONTRACTOR implementation and compliance with this Section under this contract shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of this Section relate.

END OF SECTION

SECTION 01140 – CONTRACTOR’S USE OF THE SITE

PART 1 – GENERAL

1.1 SCOPE

This section includes requirements and restrictions related to CONTRACTOR’s use of the Site.

1.2 RELATED REQUIREMENTS

The Drawings, the provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to the Work of this Section.

1.3 CONTRACTOR’S USE OF SITE

- A. Time restrictions for performing work: 7:00 A.M. to 6:00 P.M. on weekdays unless otherwise approved by OWNER.
- B. CONTRACTOR shall allow OWNER, ENGINEER, representatives of the National Park Service, and regulatory agency personnel access to the site at all times.
- C. CONTRACTOR shall keep site free from accumulation of surplus materials and rubbish resulting from the Work.
- D. CONTRACTOR shall take all steps necessary to avoid depositing debris and mud on roads and streets adjoining, or on the site, from vehicles and equipment operating to and from the construction site during the Work. CONTRACTOR shall also be responsible for removal of such debris by brooming and washing on a daily basis and additionally, immediately upon notice by ENGINEER or governmental authorities. CONTRACTOR’s failure to comply with these requirements within 2 hours after being given notice by ENGINEER or governmental agency, will result in OWNER having the streets cleaned and deducting the costs of such cleaning from the amount due to CONTRACTOR.
- E. Public roadways cross the site. CONTRACTOR shall refer to Section 01550 - Traffic Control for coordination required to minimize disturbance and hazards to pedestrian, automobile, and bicycle traffic.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

PART 4 – PAYMENT

There shall be no separate payment for CONTRACTOR or Subcontractor incidentals pursuant to implementation and compliance with the requirements of this Section. Full compensation for all CONTRACTOR implementation and compliance with this Section under this contract shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of this Section relate.

END OF SECTION

SECTION 01275 – MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 SCOPE

The Contract pay items described in this section refer to the pay items listed on the Bid Form. They constitute *all* pay items for completion of the Work. No separate payment will be made for miscellaneous, temporary, or accessory work such as, jobs signs, sanitary requirements, testing, safety devices, water supplies, power, watchmen, bonds, and insurance. Compensation for all such services, items and materials shall be included in the lump sum amounts and unit prices for the pay items listed on the Bid Form.

Payment includes full compensation for all required labor, product, tools, equipment, services and incidentals to complete the Work, including overhead and profit. Invoices submitted for payment shall include all applicable line items on the Bid Form originally submitted for the Work, that have been completed to date.

1.2 RELATED REQUIREMENTS

The Drawings, the provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to the Work of this Section.

1.3 DEFECT ASSESSMENT AND NON-PAYMENT FOR REJECTED PRODUCTS

- A. CONTRACTOR shall replace portions of the Work that do not conform to specified requirements as determined by ENGINEER.
- B. If, in the opinion of ENGINEER, it is not practical to remove and replace the Work, ENGINEER will direct one of the following remedies:
 - 1. The defective Work may remain, but the price for the associated task will be adjusted.
 - 2. The defective Work will be partially repaired in accordance with ENGINEER's instructions to the satisfaction of ENGINEER, and the price will be adjusted.
- C. Payment will not be made for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products placed beyond the lines and levels of the required Work.
 - 4. Products remaining on hand after completion of the Work.
 - 5. Loading, hauling, and disposing of rejected products.
 - 6. Products not completely unloaded from the transporting vehicle.

1.4 FORMAT AND PREPARATION OF PAYMENT APPLICATIONS

- A. CONTRACTOR shall submit typed applications for payment on the form - "Payment Application and Certificate."
- B. CONTRACTOR shall execute application for payment by signature of authorized officer.
- C. CONTRACTOR shall use line items from the approved Bid Form (Unit Price Schedule). Provide dollar value in each column for each line item for portion of work performed and for stored products.
- D. CONTRACTOR shall list each authorized Contract Change as an extension on a continuation sheet, listing the Contract Change number and dollar amount as referenced against original item of Work.

1.5 SUBMITTAL PROCEDURES AND SUBSTANTIATING INFORMATION

- A. CONTRACTOR shall submit three copies of each Application for Payment to OWNER.
- B. Payment Period: Submit Application for Payment at intervals in accordance with the Contract Documents;
- C. Application for Payment shall be accompanied with any additional administrative submittals required by these Contract Documents.
- D. Progress Reports shall be submitted with each Application for payment that details the activities at the site. CONTRACTOR shall submit to OWNER the format of the Progress Report prior to initiating any field activities. The proposed Progress Report shall be reviewed and approved by OWNER prior to the submittal of any Application for Payment.
- E. When OWNER or ENGINEER requires substantiating information, CONTRACTOR shall submit data justifying dollar amounts in question.
- F. CONTRACTOR shall provide one copy of data with cover letter for each copy of submittal and show Application for Payment number and date, and line item by number and description.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

3.1 MEASUREMENT FOR PAYMENT

Gallons of Contact Water treated and discharged shall be determined by CONTRACTOR's and ENGINEER's joint reading of a flow totalizer meter installed by CONTRACTOR and calibrated in the presence of ENGINEER to measure the total influent flow of water to the sanitary sewer.

Tonnages will be determined by certified weight certificates from source/disposal facilities of each truck that enters/leaves the Site. CONTRACTOR shall be responsible for promptly submitting all weight certificates to ENGINEER. CONTRACTOR is responsible for collecting and providing all weight certificates and TSDF-signed copies of hazardous waste manifests to the OWNER. OWNER will not pay for wastes for which a valid weight ticket or TSDF-signed manifest copy is not received.

Square footage of geotextile installed, square footage of exposed face of shoring or bracing for additional excavation support, and linear feet of curbs, gutters, and curb cuts demolished and restored shall be determined by CONTRACTOR's and ENGINEER's joint measurement.

Payment for lump sum bid items shall be made in accordance with the ENGINEER-approved Schedule of Values described in Section 01290 – Schedule of Values.

PART 4 – PAYMENT

There shall be no separate payment for CONTRACTOR or Subcontractor incidentals pursuant to implementation and compliance with the requirements of this Section. Full compensation for all CONTRACTOR implementation and compliance with this Section under this contract shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of the Measurement and Payment Section relate.

END OF SECTION

SECTION 01290 – SCHEDULE OF VALUES

PART 1 – GENERAL

1.1 SCOPE

CONTRACTOR shall submit a Schedule of Values for approval by ENGINEER.

1.2 RELATED REQUIREMENTS

The Drawings, the provisions of the Contract including the General and Supplementary Conditions apply to the Work of this Section.

1.3 SUBMITTALS

- A. Schedule of Values: CONTRACTOR shall submit a Schedule of Values to OWNER as soon as practicable, and in no event later than 10 business days after receiving the Notice to Proceed. The Schedule of Values shall meet the following requirements:

Content:

1. The Schedule of Values shall provide a detailed breakdown of the work task and subsequent proposed billing for Bid Items provided in the Bid Form (Section 00300). The sum of costs for line item components of each Bid Item shall equal the Bid Item amount.
2. The installed value of each major item of work and each subcontracted item of work shall be listed by CONTRACTOR as a separate line item. All total values are to be rounded to the nearest whole dollar.
3. Subcontractor schedules of values must also be submitted as applicable.
4. The sum of values listed, based on "primary" unit prices extended, and "lump sum" prices, shall equal the total lump sum price for the Bid Item. The sum of the Bid Item prices shall equal the contract sum.

Substantiating Data:

1. When requested by OWNER, CONTRACTOR shall submit data justifying the individual Schedule of Values line item amounts in question.

Unit Rates:

1. When requested by OWNER, CONTRACTOR shall submit data justifying the individual Schedule of Values line item amounts in question.
2. CONTRACTOR shall submit hourly rates for laborers and operated and maintained equipment to be used when performing work that is beyond the scope of these specifications upon written authorization by OWNER.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

PART 4 – PAYMENT

There shall be no separate payment for CONTRACTOR or Subcontractor incidentals pursuant to implementation and compliance with the requirements of this Section. Full compensation for all CONTRACTOR implementation and compliance with this Section under this contract shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of the Schedule of Values Section relate.

END OF SECTION

SECTION 01330 – SUBMITTALS AND PROCEDURES

PART 1 – GENERAL

1.1 SECTION INCLUDES

This Section provides a list of submittals required under this Contract. This section also provides a schedule for CONTRACTOR'S submittal of these documents to ENGINEER.

1.2 RELATED REQUIREMENTS

The Drawings, the provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to the Work of this Section.

1.3 SUBMITTAL PROCEDURES

- A. CONTRACTOR shall submit all documents as required in this section. These documents include, but are not limited to: CONTRACTOR plans, progress schedule, product information, shop drawings, dimensional data, manufacturer's instructions, proposed off-site disposal facilities, manifests, and as-built survey drawing.
- B. For each submittal, CONTRACTOR shall identify project, CONTRACTOR, subcontractor or supplier; pertinent Construction Drawing and detail number(s), and specification Section number, as appropriate.
- C. CONTRACTOR shall schedule submittals to expedite the project, and submit one copy to the on-site ENGINEER, and one copy to the OWNER. CONTRACTOR shall also coordinate submission of related items.
- D. CONTRACTOR shall identify variations from Contract Documents and product or system limitations, which may be detrimental to successful performance of the completed Work.
- E. CONTRACTOR shall revise and resubmit submittals, as required by ENGINEER, and identify all changes made since previous submittal.
- F. CONTRACTOR shall distribute copies of reviewed submittals to concerned parties and instruct parties to promptly report any inability to comply with provision.

1.4 REQUIRED SUBMITTALS

- A. Within 10 business days of the date of commencement as stated in the Notice to Proceed, CONTRACTOR shall prepare the following items and submit them to ENGINEER:
 - 1. Construction Progress Schedule (see Part 1.6 of this Section)
 - 2. Proposed Product List (see Part 1.7 of this Section)
 - 3. Proposed Materials List (see Part 1.8 of this Section)
 - 4. Schedule of Values (see Section 01290 – Schedule of Values) if not previously submitted in response to the Contract Award.
 - 5. A completed Health and Safety Plan (see Section 01900 – Health and Safety Requirements)
 - 6. A completed Excavation Protection Plan (see Section 02260 – Excavation Support and Protection)
 - 7. A list of all permits and licenses CONTRACTOR shall obtain indicating the agency required to grant the permit and the expected date of submittal for the permit application and required date for receipt of the executed permit.
- B. Additional submittals as required in the Contract Documents.

1.5 CONSTRUCTION PROGRESS SCHEDULES

- A. CONTRACTOR shall submit initial progress schedule in accordance with Part 1.4 of this Section. Updated progress schedules shall be submitted to ENGINEER on a weekly basis by CONTRACTOR during the work.
- B. CONTRACTOR shall revise and resubmit the schedule as required by ENGINEER.
- C. The schedule shall show complete sequence of construction by activity, identifying work of separate phases/stages, rerouting of the bicycle/pedestrian pathway and Mason Street and other logically grouped activities.
- D. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates.

1.6 PROPOSED PRODUCTS LIST

- A. CONTRACTOR shall submit a complete list of major products proposed for use including geotextile fabric for stabilization, polyethylene sheeting or tarps for covering stockpiles, and all products that will be utilized for traffic control and site security with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.7 PROPOSED MATERIALS LIST

CONTRACTOR shall submit complete list of materials proposed for use, including Granular Fill Material, General Fill Material, and aggregate base with name and address of supplier, material specification sheet, and reference standards.

1.8 PRODUCT DATA

- A. Submit two copies to be retained by ENGINEER.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data shall provide information unique to this Work.
- C. After review, distribute in accordance with Part 1.3 above.

1.9 MANUFACTURER'S INSTRUCTIONS

- A. CONTRACTOR shall submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for product data.
- B. Any conflicts between manufacturers' instructions and Contract Documents shall be identified by CONTRACTOR.

1.10 MANIFESTS AND DISPOSAL OF HAZARDOUS AND NON-HAZARDOUS MATERIAL

CONTRACTOR shall submit copies of all manifests and records for disposal of any hazardous and non-hazardous materials in accordance with Section 02120 - Off-Site Transportation and Disposal.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

PART 4 – PAYMENT

There shall be no separate payment for CONTRACTOR or Subcontractor incidentals pursuant to implementation and compliance with the requirements of this Section. Full compensation for all CONTRACTOR implementation and compliance with this Section under this contract shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of this Section relate.

END OF SECTION

SECTION 01400 – QUALITY CONTROL

PART 1 – GENERAL

1.1 SCOPE

This Section outlines general requirements with respect to quality control of CONTRACTOR's work.

1.2 RELATED REQUIREMENTS

The Drawings, the provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to this Section.

1.3 QUALITY CONTROL, GENERAL

CONTRACTOR shall maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

1.4 WORKMANSHIP

- A. CONTRACTOR shall comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. CONTRACTOR shall perform work using persons qualified to produce workmanship of specified quality.

1.5 MANUFACTURERS' INSTRUCTIONS

- A. CONTRACTOR shall comply with manufacturers' instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, CONTRACTOR shall request clarification from ENGINEER before proceeding.

1.6 MANUFACTURERS' CERTIFICATES

- A. When required by individual sections, CONTRACTOR shall submit, in duplicate, manufacturer's certificate that products meet or exceed specified requirements.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

PART 4 – PAYMENT

There shall be no separate payment for CONTRACTOR or Subcontractor incidentals pursuant to implementation and compliance with the requirements of this Section. Full compensation for all CONTRACTOR implementation and compliance with this Section under this contract shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of the Quality Control Section relate.

END OF SECTION

SECTION 01410 – REGULATORY REQUIREMENTS/RESPONSIBILITY TO THE PUBLIC

PART 1 – GENERAL

1.1 SCOPE

This Section describes regulatory requirements during CONTRACTOR's implementation of the Work. This Section also describes CONTRACTOR's responsibility to other members of the general public.

1.2 RELATED REQUIREMENTS

- A. The Drawings, the provisions of the Contract including the General and Supplementary Conditions apply to the Work of this Section.
- B. Section 01460 - Environment Protection
- C. Section 01900 - Health and Safety Requirements
- D. All Division 2 Sections

1.3 REGULATORY REQUIREMENTS

- A. The OWNER has obtained coverage under the Construction NPDES Storm Water General Permit and prepared a Storm Water Pollution Prevention Plan (SWPPP) in compliance with the General Permit. The OWNER has also obtained a wastewater discharge permit from the San Francisco Public Utilities Commission (SFPUC). The SWPPP and SFPUC permit are attached to these specifications. CONTRACTOR shall give all necessary notices and comply with these existing approvals as described in Section 01502 – Storm Water Pollution Controls and Section 02116 – Contact Water Management. CONTRACTOR shall pay all permit fees, file all necessary plans, prepare all documents, and obtain all other necessary approvals from all other governmental departments having jurisdiction over the Work. CONTRACTOR shall obtain all required Certificates of Inspection and Approval for the Work and deliver these documents to ENGINEER, except as noted.
- B. CONTRACTOR shall include in the Work, without extra cost to OWNER, labor materials, services and drawings required to comply with all applicable laws, ordinances, rules and regulations, whether or not shown in the Contract, Specification, or Drawings or specified.
- C. CONTRACTOR shall be familiar with all federal, state, local and municipal law, ordinances, rules and regulations which in any manner affect those engaged or employed in the Work, the materials or equipment used in or upon the Work, or in any way effect the Work. No pleas of misunderstanding will be considered on account of the ignorance thereof. If CONTRACTOR discovers any provision in the Contract, Specifications, or Drawings which is contrary to, or inconsistent with, any such law, ordinance, rule or regulation, CONTRACTOR shall immediately report the inconsistency to ENGINEER in writing.
- D. For the security and safety of persons in or adjacent to construction operations, the "Manual of Accident Prevention for Construction" of the Associated General Contractors of America shall be followed as applicable, specifically or similarity of operation, or as in the opinion of the governing jurisdictions may be necessary for protection.

1.4 RESPONSIBILITY TO THE PUBLIC

- A. Presidio Resources and Visitors
 - 1. The Site is located in a National Park and on land administered by the National Park Service. CONTRACTOR personnel shall treat visitors of the Presidio and National Park Service personnel

with respect at all times. CONTRACTOR shall perform all work in a manner that minimizes impacts to the resources and visitors of the Presidio.

B. Traffic

1. CONTRACTOR shall employ traffic control measures including, but not limited to, furnishing flagmen and watchmen; and furnishing, erecting, properly maintaining, removing, and disposing of traffic controls as required in Section 01550 – Traffic Controls.
2. CONTRACTOR shall conduct all operations in a manner that complies with all applicable Laws and Regulations and which will in no way discredit OWNER at any time.

C. Fugitive Dust Control

1. See Section 1501 – Dust Control

D. Intoxicating Liquors, Narcotics and Drugs

1. CONTRACTOR shall not sell and shall neither permit nor suffer the introduction or use of intoxicating liquors, narcotics or drugs upon or about the Work. The enforcement of this requirement shall be the responsibility of CONTRACTOR.

E. Protection of Property

1. All property in the vicinity of the Work, or that is any way affected by the Work shall be protected and preserved from damage by CONTRACTOR. Trees, fences, water or gas pipes, sewers, drains, conduits or wires for electrical purposes, railways, or other structures shall not be altered or moved without consent of the persons owning or controlling them.
2. Property damaged shall be immediately repaired and restored at the expense of CONTRACTOR, or if required, CONTRACTOR shall make the necessary repairs. In case of failure on the part of CONTRACTOR to restore such property as deemed necessary by ENGINEER, ENGINEER will have repairs made and any cost thereof will be deducted from payments due or which may become due to CONTRACTOR under this Contract.
 - a. Existing Underground Utilities
The locations of known underground utilities that are shown on the Drawings are based on available records and should be considered approximate only. CONTRACTOR shall be responsible for determining the exact location of each utility within the area of excavation and grading whether shown on the Drawings or not. Care shall be exercised during such utility location work to avoid damaging and/or disrupting the affected utility. Notwithstanding information given on the Drawings relating to abandoned utilities (e.g. electrical lines) CONTRACTOR shall verify whether utilities are operable before conducting any subsurface work. CONTRACTOR shall be responsible for protecting all underground utilities and for repairing, at CONTRACTOR's expense, damage or damages to any utility caused by its work during the period of construction or within the period covered by his guarantee bond.
 - b. Protection of Trees and Vegetation
Trees and other vegetation within and adjacent to the Limits of Work shall be protected by CONTRACTOR unless removal is authorized by OWNER. Operation of all equipment, storage of materials, disposition of graded material, and construction in general shall be conducted so as not to injure any vegetation.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

PART 4 – PAYMENT

There shall be no separate payment for CONTRACTOR or Subcontractor incidentals pursuant to implementation and compliance with the requirements of this Section. Full compensation for all CONTRACTOR implementation and compliance with this Section under this contract shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of this Section relate.

END OF SECTION

SECTION 01460 – ENVIRONMENT PROTECTION

PART 1 – GENERAL

1.1 SCOPE

CONTRACTOR shall perform all Work in such manner as to minimize the polluting of air, water, or land and shall, within reasonable limits, control noise and minimize the generation and disposal of solid waste materials, as well as other pollutants.

1.2 RELATED REQUIREMENTS

- A. The Drawings, the provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to the Work of this Section.
- B. Section 01410 - Regulatory Requirements/Responsibility to the Public
- C. Section 01500 – Temporary Facilities and Controls
- D. Section 01501 - Dust Control
- E. Section 01502 - Storm Water Pollution Controls
- F. Section 01900 - Health and Safety
- G. All Division 2 Sections

1.3 PRE-CONSTRUCTION WALK-THROUGH

Prior to start of any on-site construction activities, CONTRACTOR and ENGINEER shall make a joint condition survey of the site. CONTRACTOR shall prepare a brief report indicating on a site plan the condition of structures, fences, equipment, buildings, and storm water management controls, immediately adjacent to the site of the work and access route(s). This report will be signed by both ENGINEER and CONTRACTOR upon mutual agreement as to its accuracy and completeness.

1.4 PROTECTION OF LAND AREAS

- A. Except for any work or storage area and access routes specifically assigned for the use of CONTRACTOR, land areas outside the Work Areas shall be preserved in their present condition.
- B. CONTRACTOR shall confine its construction activities to areas shown on the Drawings as specifically assigned for CONTRACTOR's use. Storage areas, and access required temporarily by CONTRACTOR in the performance of the Work will be coordinated with the ENGINEER.

1.5 PROTECTION OF WATER RESOURCES

- A. CONTRACTOR shall control the disposal of fuels, oils, bitumens, calcium chloride, acids or harmful materials, both on and off-site and shall comply with applicable federal, state, county and municipal laws concerning pollution of rivers and streams. Special measures shall be taken to prevent chemicals, fuels, oils, greases, and lubricants from entering public waters.
- B. Water used in on-site material processing, concrete curing, foundation and concrete clean-up, and other waste waters shall not be allowed to re-enter the public waters.

1.6 PROTECTION OF CULTURAL RESOURCES

- A. The Site was used as a 19th century American military post and was occupied by Native Americans in the pre-contact period and is known to have many cultural resource deposits. Excavation activities will be observed by Cultural Monitors from the Presidio, who will be looking for cultural resources exposed by

earthwork equipment. Prior to commencing earthwork activities, CONTRACTOR shall meet with the ENGINEER and the Cultural Monitors to establish a protocol for temporarily halting earthwork in areas where cultural resources are found, investigating the find, and recommencing grading, as deemed appropriate by the Cultural Monitors. CONTRACTOR shall provide training to employees and subcontractors regarding compliance with these protocols. If potential human remains are identified, work in the vicinity of the discovery will cease and the Trust will contact the San Francisco County Coroner's Office (SF Coroner). The SF Coroner will investigate and remove the remains, if appropriate. If cultural or other resources or human remains are discovered, CONTRACTOR shall shift work operations to another area. No standby or delay claims will be paid for localized work stoppages related to discovery of cultural or other resources or human remains. When Cultural Monitors are not present during excavation work, OWNER and ENGINEER will determine when it is necessary to temporarily stop work in the vicinity of potential cultural resources and notify the Cultural Monitors.

- B. CONTRACTOR shall coordinate with Cultural Monitors to ensure monitors are apprised of planned construction activities. The Cultural Monitors will be empowered to issue stop-work orders and to resolve resource issues that may arise during construction.

1.7 DUST CONTROL

- A. CONTRACTOR shall maintain all excavations, stockpiles, access roads, waste area, and all other work areas free from excess dust to such reasonable degree as to avoid causing a hazard or nuisance.
- B. Dust control shall be performed in accordance with Section 01501 – Dust Control.

1.8 EROSION CONTROL

Temporary control measures shall be provided and maintained until permanent drainage facilities are completed and operative. Such measures shall include, but not be limited to, certified seed free straw wattles and silt fencing. The area of bare soil exposed at any one time by construction operations should be held to a minimum. Section 01502 – Storm Water Pollution Controls includes a detailed discussion of erosion control systems required during the Work.

1.9 CORRECTIVE ACTION

CONTRACTOR shall, upon receipt of a notice in writing from ENGINEER of any noncompliance with the foregoing provisions, take immediate corrective action in accordance with any and all federal, state, county or municipal laws. If CONTRACTOR fails or refuses to comply promptly, ENGINEER may issue an order stopping all or part of the work until satisfactory corrective action has been taken.

1.10 POST-CONSTRUCTION CLEANUP OR OBLITERATION

CONTRACTOR shall, unless otherwise instructed in writing by ENGINEER obliterate all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. The disturbed areas shall be graded and restored as shown on the Drawings. CONTRACTOR shall remove all storm water pollution control measures within the Work Areas and security fences installed by CONTRACTOR, except as directed by ENGINEER.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

PART 4 – PAYMENT

There shall be no separate payment for CONTRACTOR or Subcontractor incidentals pursuant to implementation and compliance with the requirements of this Section. Full compensation for all CONTRACTOR implementation and compliance with this Section under this contract shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of the Environmental Protection Section relate.

END OF SECTION

SECTION 01500 – TEMPORARY FACILITIES AND SITE CONTROLS

PART 1 – GENERAL

1.1 SCOPE

This section describes temporary facilities and controls that shall be provided by CONTRACTOR during performance of the Work.

1.2 RELATED REQUIREMENTS

- A. The Drawings, the provisions of the Contract including the General and Supplementary Conditions apply to the Work of this Section.
- B. Section 01330 – Submittals and Procedures
- C. Section 01460 - Environmental Protection
- D. Section 01502 – Storm Water Pollution Controls
- E. Section 01550 – Traffic Control
- F. Section 01560 – Site Security
- G. Section 01900 - Health and Safety Requirements

1.3 SUBMITTALS

- A. In accordance with Section 01330 – Submittals and Procedures
- B. CONTRACTOR shall submit to ENGINEER and OWNER, within the Construction Work Plan (Section 01330), the sequence of this work, describing how equipment, vehicles, and personnel decontamination procedures will be implemented. Include design to contain and collect equipment washdown water. Personnel decontamination procedures shall also be outlined in the Contractor Health and Safety Plan.

1.4 ACCESS AND DRAINAGE

- A. CONTRACTOR shall keep all natural drainage and water courses unobstructed or provide equal courses effectively placed, and prevent accumulations of surface water. CONTRACTOR shall construct grade and stabilize access roads, and provide temporary mobilization, parking, and storage areas for its use during construction within the areas shown on the Drawings or as approved by OWNER.
- B. CONTRACTOR shall provide measures before and during a rainfall event to prevent on-site sediment from being carried off-site, and limit pollutant load to rainfall runoff in accordance with Section 01502 – Storm water Pollution controls.
- C. CONTRACTOR shall maintain mobilization, parking, and storage areas in stable and smooth condition throughout the duration of the Work. Traffic control measures shall be provided in accordance with Section 1550 – Traffic Control.

1.5 TEMPORARY SANITARY FACILITIES

- A. CONTRACTOR shall furnish and maintain the necessary temporary self-contained sanitary facilities in accordance with all applicable regulations. The use of these facilities shall be available for use by CONTRACTOR'S employees as well as ENGINEER'S representatives and other project personnel on the site.

- B. CONTRACTOR shall furnish and maintain hand washing facilities for all site personnel for the duration of the Work. Hand washing facilities shall be provided with running water. Hand washing wastewater shall be collected and managed and disposed as Contact Water (see Section 2116 – Contact Water Management).

1.6 CONTRACTOR STORAGE AREA

A storage area will be designated by OWNER on the project site for use by CONTRACTOR for storage of materials, tools, equipment, office, and other items necessary for construction. The exact limits of the storage area will be designated in the field by ENGINEER. CONTRACTOR shall be fully responsible for the preparation of this area, its maintenance, and its security, including fencing, watchmen, or other means of security. Under no circumstances will OWNER or ENGINEER be responsible for the security of any property belonging to CONTRACTOR, its subcontractors, or any of its work forces.

1.7 STAGING AREAS, STORAGE AND FIELD OFFICES

CONTRACTOR may, during the course of this project, stage construction, storage materials, or erect a temporary field office only within the Equipment Staging Areas shown on the Drawings or as otherwise approved by ENGINEER.

1.8 DECONTAMINATION AND CARE OF WATER

CONTRACTOR shall furnish all labor, materials, and equipment necessary for decontamination of equipment and for temporary storage of washdown water following decontamination procedures. All water used by CONTRACTOR during the project shall be obtained by CONTRACTOR from fire hydrants located within or near the Limits of Work shown on the Drawings. CONTRACTOR will be responsible for obtaining prior written approval from OWNER and for paying all fees related to fire hydrant connections and water usage during the project. CONTRACTOR shall follow and implement the decontamination specifications outlined in this, and related, sections.

1.9 EQUIPMENT DECONTAMINATION

- A. CONTRACTOR shall establish a decontamination area for decontamination of all equipment and vehicles which contact site soils. CONTRACTOR shall insure that any equipment, vehicles, or personnel that have been in contact with site soils are properly decontaminated, before leaving the area. CONTRACTOR shall describe equipment decontamination procedures in its Construction Plan.
- B. CONTRACTOR may use brushing, vacuuming, steam cleaning, pressure washing, or equivalent methods for decontaminating vehicles and equipment. Steam cleaning may be required by ENGINEER, depending on the equipment condition.
- C. CONTRACTOR shall pay all costs related to decontamination of CONTRACTOR's equipment including demolition and off-Site disposal of the decontamination pad.
- D. CONTRACTOR shall obtain all wash water needed for decontamination of equipment and personnel from a potable water source. Disposal of decontamination water shall be performed in accordance with Section 02116 – Contact Water Management.
- E. CONTRACTOR shall perform decontamination in a manner that meets the requirements of Section 01502 – Storm Water Pollution Controls.

1.10 PERSONNEL DECONTAMINATION

Personnel decontamination procedures shall be followed by CONTRACTOR as outlined in the CONTRACTOR'S Health and Safety Plan.

1.11 DISPOSAL OF EXCESS SOLID WASTE

CONTRACTOR shall dispose of all collected solid wastes generated in accordance with applicable Federal and State of California Solid Waste Disposal regulations.

1.12 TEMPORARY ELECTRICAL POWER

CONTRACTOR shall arrange for and provide for its own power using portable generators. No electrical power drops will be allowed without prior written approval by OWNER.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

PART 4 – PAYMENT

Full compensation for all CONTRACTOR implementation and compliance with this Section under this contract shall be considered as included in the contract lump sum price for Bid Item No. 1.

END OF SECTION

SECTION 01501 – DUST CONTROL

PART 1 – GENERAL

1.1 DEFINITIONS

Dust shall mean airborne particulates that are associated with or result from CONTRACTOR's activities. Of particular concern is dust associated with CONTRACTOR'S excavation activities, truck traffic onto and off of the Site, and ambient wind traversing excavated soil or open excavations.

1.2 RELATED REQUIREMENTS

The Drawings, the provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to the Work of this Section.

1.3 MINIMUM REQUIREMENTS

To prevent the formation of dust, CONTRACTOR, at a minimum, shall be required to:

- A. Keep vehicle speeds on the property below 5 miles per hour.
- B. Mist or spray water while excavating of soil and loading transportation vehicles. Water used for dust suppression shall be potable water.
- C. Control excavation activities to minimize dust generation.
- D. Keep the drop heights to a minimum, while loading transportation vehicles.
- E. Cover soil stockpiles.
- F. Have a water supply available continuously.

1.4 CONTINGENCY REQUIREMENTS

If visible dust is observed by CONTRACTOR, ENGINEER, OWNER, National Park Service personnel, or regulatory agencies, CONTRACTOR shall perform the following:

- A. Increase the magnitude of dust control measures.
- B. Increase the frequency of implementation of dust control measures.

These contingency measures shall be performed at no additional cost to OWNER and CONTRACTOR shall include appropriate contingency funds in CONTRACTOR's bid to cover such contingency measures.

1.5 EXCESSIVE WATERING

Except as required by ENGINEER, CONTRACTOR shall not employ dust control methods which result in ponded water, or surface erosion.

1.6 CONTRACTOR'S RESPONSIBILITY

Effective control of dust is of paramount importance for protection of workers on the Site, for protection of the public, and for compliance with Laws and Regulations. During the performance of all Work, CONTRACTOR shall employ conscientious and effective means of dust control. CONTRACTOR shall assume responsibility for all damages, delays, government-imposed penalties or fines, and claims which result from CONTRACTOR's negligent dust control practices.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

PART 4 – PAYMENT

There shall be no separate payment for CONTRACTOR or Subcontractor incidentals pursuant to implementation and compliance with the requirements of this Section. Full compensation for all CONTRACTOR implementation and compliance with this Section under this contract shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of this Section relate.

END OF SECTION

SECTION 01502 – STORM WATER POLLUTION CONTROLS

PART 1 – GENERAL

1.1 SCOPE

Work under this Section includes implementation of a Storm Water Pollution Prevention Plan (SWPPP) prepared by the ENGINEER. The SWPPP shall be implemented before, during, and after precipitation events and providing for permanent post-construction storm water pollution controls following completion of construction. CONTRACTOR shall assume responsibility for all damages, delays, government-imposed penalties or fines, and claims which result from CONTRACTOR's failure to control storm water.

1.2 RELATED SECTIONS

- A. Section 01330 - Submittals and Procedures
- B. All Division 2 Sections

1.3 DEFINITIONS

Storm Water Pollution Controls: Structural and non-structural measures provided by CONTRACTOR before, during, and after a rainfall event to minimize rainfall runoff from the Site, prevent on-site sediment from being carried off-site, and limit pollutant load to rainfall runoff.

1.4 STORM WATER POLLUTION PREVENTION PLAN

A copy of a site-specific Storm Water Pollution Prevention Plan ("SWPPP") for this project is attached to these specifications. The SWPPP describes best management practices (BMPs) that shall be established and maintained by CONTRACTOR during the work in accordance with State Water Resources Control Board, San Francisco County, and California Regional Water Quality Control Board, San Francisco Bay Region, Storm Water Pollution Prevention Plan Requirements for Construction Projects. CONTRACTOR is fully responsible for implementing the SWPPP and shall be responsible for all damages, delays, government-imposed penalties or fines, and claims which result from non-compliance with the SWPPP.

The OWNER has obtained coverage under the Construction NPDES Storm Water General Permit and prepared the Storm Water Pollution Prevention Plan (SWPPP) in compliance with the General Permit. The CONTRACTOR is responsible for providing qualified persons for the implementation of monitoring and verifying compliance with the SWPPP and the General Permit. The CONTRACTOR shall maintain a copy of the SWPPP and a copy of the CONTRACTOR's training, monitoring, and maintenance records on the Site at all times.

1.5 SPILLS

In the event of a spill in violation of California Fish and Game Code Section 5650, or release of a hazardous substance (as designated in 40 CFR 302), pollutant, contaminant, or oil (as governed by the Oil Pollution Act (OPA), 33 U.S.C. 2701 et seq.), CONTRACTOR shall notify the OWNER immediately. If the spill exceeds the reporting threshold, OWNER shall follow the pre-established procedures for immediate reporting to the appropriate regulatory agencies. Immediate containment actions shall be taken to minimize the effect of any spill or leak. Clean-up shall be in accordance with applicable federal, state, and local regulations. Additional sampling and testing may be required to verify spills have been cleaned up. Spill clean-up and testing shall be done at the sole expense of the CONTRACTOR.

1.6 SPILL RESPONSE MATERIALS

CONTRACTOR shall provide and maintain on-site spill response materials including, but not limited to, containers, adsorbent, shovels, and personal protective equipment. Spill response materials shall be available at all times and at

sufficient quantities to handle hazardous materials/wastes that are being handled, stored, or transported. Spill response materials shall be compatible with the type of material being handled.

1.7 PROTECTION OF WATER RESOURCES

- A. CONTRACTOR shall control the disposal and use of chemicals, petroleum products and foreign or hazardous materials, both on and off-site and shall comply with applicable federal, state, county and municipal laws concerning pollution of soil, groundwater, rivers, and streams. Special measures shall be taken to prevent chemicals, petroleum products, construction materials, foreign substances, or hazardous materials from entering soil, groundwater, or public waters.
- B. Water used in on-site material processing, concrete curing, foundation and concrete clean-up, and other waste waters shall not be allowed to enter public waters.

1.8 EROSION CONTROL

- A. Surface drainage from cuts and fills within the construction limits, whether or not completed, shall be graded to control erosion within limits defined in the SWPPP.
- B. Temporary control measures shall be provided and maintained until permanent drainage facilities are completed and operative using BMPs described in the SWPPP.
- C. The area of bare soil exposed at any one time by construction operations shall be held to a minimum.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

3.1 STORM WATER POLLUTION CONTROLS DURING SITE WORK

- A. CONTRACTOR shall provide controls to prevent storm water runoff from exposed soil on the Site and prevent sediment, especially sediment potentially containing the Site chemicals of concern, from leaving the Site.
- B. Storm water that contacts site soils shall be handled using the procedures described in Section 02116 - Contact Water Management. CONTRACTOR will not be paid for treatment of Contact Water that is created due to CONTRACTOR's failure to implement successful storm water or other water management practices. This determination shall be made by ENGINEER.
- C. CONTRACTOR shall also provide controls so that storm water does not accumulate in excavations, pits, or trenches constructed during the Work. CONTRACTOR shall be responsible for the removal, treatment (if required), and proper disposal of any rainwater that has accumulated in excavations, pits, or trenches prior to the pits being backfilled.
- D. If ENGINEER observes conditions that are not in compliance with the SWPPP or Laws and Regulations, ENGINEER will notify CONTRACTOR. CONTRACTOR shall provide a remedy immediately. If CONTRACTOR fails to take appropriate action, CLIENT will provide a remedy and deduct the costs of the remedy from the amount due to CONTRACTOR.
- E. After work activities are complete, the OWNER will file a Notice of Termination for the General Permit. CONTRACTOR shall leave the Site such that there are no obstructions that will prevent rainfall runoff from flowing off-site.

PART 4 – PAYMENT

Compensation shall be considered as included in the contract lump sum price for Bid Item No. 1. Compensation for implementation and compliance with all other components of this Section shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of this Section relate.

END OF SECTION

SECTION 01510 – MOBILIZATION AND DEMOBILIZATION

PART 1 – GENERAL

1.1 SCOPE

- A. Mobilization/demobilization shall consist of all preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to and from the project site, necessary for the Work; for furnishing, erection, maintenance, and removal of construction signs and for all other work and operations which must be performed, or costs incurred, not otherwise paid for under another bid item for this contract.
- B. CONTRACTOR shall furnish labor and materials for the following major tasks:
 - 1. Move in and move out construction personnel and equipment.
 - 2. Set up the temporary facilities, utilities, and decontamination zones.
 - 3. Conduct a pre-construction survey as detailed on the Drawings.
 - 4. Clean up, dispose of construction debris, remove excess supplies and equipment, and restore the site after completion of the Work.
 - 5. Installation and maintenance of storm water pollution control measures in accordance with Section 01502 – Storm Water Pollution Controls.

1.2 RELATED REQUIREMENTS

- A. The Drawings, the provisions of the Contract including the General and Supplementary Conditions apply to the Work of this Section.
- B. All Division 2 Sections

PART 2 – PRODUCTS

2.1 MATERIALS

CONTRACTOR materials shall be suitable for their intended use and shall conform to applicable codes and standards. Manufacturer's requirements shall be strictly adhered to by CONTRACTOR. Recycled materials may be utilized after approval by ENGINEER or OWNER provided that they are sound and capable of performing their intended function. Recycled concrete and/or asphalt materials, imported from off-site will not be allowed.

PART 3 – EXECUTION

3.1 PREPARATION

- A. CONTRACTOR shall have submitted and obtained OWNER'S approval for all submittals required prior to the beginning of on-site construction activities in accordance with Section 01330 - Submittals and Procedures, and have received the Notice to Proceed from the OWNER.
- B. Prior to the installation of utilities, or access routes, CONTRACTOR shall field stake the location, access, and layout of other related facilities (also see Section 01500 - Temporary Facilities and Controls).

3.2 INSTALLATION

- A. CONTRACTOR shall lay out and construct additional access roads and extensions and shall maintain all such surfaces as required in the Contract Documents.

- B. CONTRACTOR shall establish waste stockpile and material storage areas that are acceptable to ENGINEER. The size of these areas shall accommodate staged wastes, materials, or required products of individual sections with allowance for inspection of products. To the extent practicable, the storage areas shall be graded to promote drainage away from the soil stockpiles or material storage.
- C. CONTRACTOR shall establish decontamination facilities for personnel and equipment.

3.3 MAINTENANCE AND CLEANING

- A. CONTRACTOR shall maintain buildings and equipment areas in a neat and orderly fashion to the satisfaction of ENGINEER and OWNER.

3.4 EQUIPMENT AND TOOLS

- A. CONTRACTOR shall deliver to the job-site all construction equipment, tools, materials and supplies necessary for the performance of the Work.
- B. CONTRACTOR shall perform safety inspections prior to use for all equipment and tools received on site.

3.5 LABOR FORCE

- A. CONTRACTOR shall establish a work force sufficient to commence and sustain the Work as required by the schedule. The work force shall consist of competent and trained workers.
- B. General site workers (such as equipment operators, general laborers, and supervisory personnel) shall be required to have completed 40-hour OSHA training in accordance with Section 01900-Health and Safety Requirements.

3.6 DEMOBILIZATION

- A. CONTRACTOR shall remove all waste, including excess construction material, segregated waste, contaminated material, building debris, rubble, and foreign material. Haul and access roads shall be completely cleared of waste, dirt, and debris. Potentially contaminated equipment and materials shall be decontaminated prior to removal from site.
- B. CONTRACTOR shall disconnect and remove all temporary utilities installed by CONTRACTOR.
- C. CONTRACTOR shall shut down, decontaminate, and remove all water storage facilities and decontamination areas.

3.7 TOPOGRAPHIC SURVEYING

- A. Before starting work, CONTRACTOR shall conduct a pre-construction topographic survey covering the areas within 100 feet of the initial excavation extents shown on the drawings. The survey shall identify site features including, but not limited to: roads, paths, curbs, gutters, drainage features, hydrants, trees, and fences. Prior to surveying within the boundaries of the Crissy Field Marsh, CONTRACTOR's surveyor shall meet with native plant specialists from the Presidio (Plant Specialists). CONTRACTOR's surveyor shall perform their work consistent with procedures developed by the Plant Specialists to prevent damage to sensitive plant species. Upon completion of excavation, CONTRACTOR's surveyor shall survey the horizontal locations and elevations of the final excavation limits and final confirmation sampling locations. Upon completion of backfilling and site restoration, CONTRACTOR shall resurvey the same area as the pre-construction topographic survey to confirm final grades.

- B. All surveying shall be performed by a State of California Licensed Surveyor. Locations shall be surveyed to within 0.1 foot relative to the North American Datum of 1927 (NAD27), California State Coordinate System, Zone 3. Elevations shall be surveyed to within 0.01 foot relative to the 1907 Presidio Lower Low Water (PLLW) datum and relative to the 1988 North American Vertical Datum (NAVD88). Topographic surveys shall have an accuracy of at least the 3rd order as defined by the Caltrans Survey Manual. The results of the pre-construction and post-construction "as-built surveys shall be submitted to the ENGINEER in the form of an AutoCAD compatible file.
- C. CONTRACTOR shall provide access for the ENGINEER's surveyor to establish a grid system on-site and survey soil sample locations.

PART 4 - PAYMENT

Full compensation for all work described in this section shall be made at the contract lump sum bid price under Bid Item No. 1.

END OF SECTION

SECTION 01550 – TRAFFIC CONTROL

PART 1 – GENERAL

1.1 SUMMARY

- A. The work under this Section includes furnishing all labor, materials, appliances, tools, equipment, transportation, services, and supervision required for designing, furnishing, installing, maintaining, and removing systems for control of traffic during execution of the Work

1.2 REFERENCES

- A. Section 01410 - Regulatory Requirements/Responsibility to the Public
- B. Section 01560 – Site Security
- C. Section 01900 - Health and Safety Requirements
- D. All Division 2 Sections

1.3 APPLICABLE STANDARDS AND SPECIFICATIONS

- A. Regulatory requirements which govern the work of this Section include, but may not be limited to, the following governing codes:
 - 1. Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) 2003 as amended by the MUTCD 2003 California Supplement. In this Section these two combined documents are referenced as "MUTCD".

1.4 SUBMITTALS

- A. Prior to mobilization to the Site, CONTRACTOR shall submit data or calculations demonstrating that Contractor's traffic barrier system will effectively prevent the intrusion of vehicles into excavation areas.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. All signs, channeling devices, traffic cones, vertical panels, barricades, signaling flags, temporary pavement markings, and other traffic control devices shall be in compliance with MUTCD requirements. Signs placed on the shoulder of Mason Street shall be equipped with flashing lights and shall be constructed of Coroplast® or an ENGINEER-approved soft material. All traffic control devices shall be inspected and maintained by CONTRACTOR.
- B. All traffic barriers shall be in accordance with MUTCD, including testing in accordance with the National Cooperative Highway Research Program (NCHRP) Report 350, "Recommended Procedures for the Safety Performance Evaluation of Highway Features". The barriers shall be certified for use by the FHWA. Contractor shall provide test data or calculations certified by a licensed engineer demonstrating that the barrier system will effectively prevent the intrusion of vehicles into excavation areas.
- C. Traffic control devices used in construction and maintenance activities (i.e., signs, barricades or warning lights) which are placed in public right-of-way shall be marked or affixed with a sticker, clearly identifying the name, address and telephone number of the individual responsible for the control device.

- D. Construction fences used to separate work activities from pedestrians and motorists must be a minimum of six (6) feet tall and constructed of chain link material. See Section 01560 – Site Security for security fence requirements. CONTRACTOR shall install steady burn or flashing warning lights at least every 30 feet along the fencing that abuts roadways or the pedestrian and bicycle path.

PART 3 – EXECUTION

3.1 GENERAL

- A. CONTRACTOR shall perform traffic control during the Work in accordance with state and federal regulations governing traffic control and consistent with those described in the *Phase I Corrective Action Plan Work Plan (Work Plan)*. CONTRACTOR shall not implement pedestrian, parking, and traffic restrictions in the vicinity of the Site that are different than those described in the *Work Plan* without prior written approval from the OWNER.
- B. Safety of the public and convenience of traffic shall be regarded as of prime importance. Unless otherwise directed, CONTRACTOR shall keep public streets open and shall provide a dust free, smooth and comfortable ride to traffic. It shall be responsibility of CONTRACTOR to ensure that traffic may safely bypass the construction sites. Flaggers shall assist traffic at all times when trucks are entering roadways. Two-way traffic shall be maintained on Mason Street unless prior approval is obtained from the OWNER.
- C. CONTRACTOR shall plan and execute its operations in a manner that will cause a minimum interference with traffic. CONTRACTOR shall place and maintain in good condition, barriers where motorists or pedestrians are rerouted or blocked from using regular traffic lanes.
- D. CONTRACTOR shall notify the OWNER at least five Working days in advance of beginning proposed Work with intention to close or partially block any street or any part thereof of any construction affecting free flow of traffic or closing /blocking any public sidewalk. CONTRACTOR shall plan and adequately provide barriers, barricades and warning devices.
- E. All fire hydrants and water control valves shall be kept free from obstruction and available for use at all times.
- F. Prior to beginning Work, CONTRACTOR shall designate, in writing, a competent person who will be responsible and available on the project site or in the immediate area to ensure compliance with MUTCD requirements. CONTRACTOR shall hold harmless OWNER, ENGINEER, their Agents, and employees from all suits, actions or claims, and from all liability and damages from any and all injuries and damages sustained by any person or property as a result of any neglect, omission, or misuse of Traffic Control Devices by CONTRACTOR. The decision to use a particular device at a particular location shall be the sole responsibility of CONTRACTOR.
- G. CONTRACTOR shall restrict vehicular and pedestrian access to the work areas in accordance with Section 01560 – Site Security.
- H. CONTRACTOR shall schedule and stagger all trucks and material deliveries to minimize on-site and off-site congestion and to prevent accidents. Direct loading of trucks on public roadways is strictly prohibited.
- I. CONTRACTOR is responsible for vehicular traffic of subcontractors and vendors.
- J. Whenever it is necessary to cross, obstruct, or close roads, driveways, and walks, CONTRACTOR shall provide and maintain detours or other temporary measures to accommodate travel.

- K. All barriers, barricades and obstructions shall be illuminated with warning lights from sunset to sunrise. Illumination shall meet the minimum requirements of MUTCD, but shall not exceed the minimum requirements by more than 50 percent without written authorization from OWNER or ENGINEER. No light plants shall be utilized to facilitate night work without written authorization from OWNER or ENGINEER.
- L. Material storage and conduct of the Work on, or along side, public streets shall cause a minimum obstruction and inconvenience of the traveling public.
- M. All informational signs and warning signs placed along the Mason Street Bike Path shall be placed on the shoulder of Mason Street. CONTRACTOR shall maintain a smooth and debris free surface on the Mason Street Bike Path and Mason Street bicycle lane throughout the project.
- N. CONTRACTOR's Flaggers shall be required any time it is necessary for CONTRACTOR's equipment to move into or across an open traffic lane, or at other such times as directed by ENGINEER. Flaggers shall be utilized to aid exit of hauling equipment from open traffic lanes to the Work area, and entry of hauling equipment from Work area to open traffic lanes. Flaggers shall be dressed and conduct operations in accordance with California Department of Transportation requirements. Flagging operations shall be the sole responsibility of CONTRACTOR.
- O. Temporary Paving and Patching: Construct, maintain, and remove temporary pavement and patching required to safely and expeditiously handle vehicle and pedestrian traffic, within or adjacent to the jobsite. Temporary pavement and patching composition shall conform to Section 02740 – Asphalt Concrete Pavement. Removal of temporary pavement shall conform to Section 02050 – Demolition.

3.2 MEASUREMENT AND PAYMENT

Full compensation for all work described in this Section shall be made as lump sum price Bid Item No. 2.

END OF SECTION

SECTION 01560 – SITE SECURITY

PART 1 – GENERAL

1.0 SUMMARY

- A. This section describes site security, and temporary security fencing that shall be provided by CONTRACTOR during performance of the Work.

1.2 REFERENCES

- A. Section 01410 – Regulatory Requirements/Responsibility to the Public
- B. Section 01330 – Submittals and Procedures
- C. Section 01550 – Traffic Control
- D. Section 01900 – Health and Safety Requirements

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

3.1 WORK SITE SECURITY

- A. OWNER is not responsible for any loss CONTRACTOR may incur due to theft or vandalism.
- B. CONTRACTOR shall be responsible for the protection of all excavation areas and especially open excavations and stockpiled soil. CONTRACTOR shall be responsible for protecting all work areas and open excavations from entry by the unknowing public. In no case shall the degree of Site security be reduced by CONTRACTOR'S Work or failure to act.
- C. CONTRACTOR shall provide temporary installation of sturdy security fencing at least 6 feet in height constructed of chain-link material equipped with a windscreen fabric to provide a physical barrier that prevents entry by the public to active construction areas, open excavations, and stockpiled material. Security fencing along public roadways shall be installed such that it does not prevent excavation of soils adjacent to the roadway. Temporary fencing may be installed using portable bases for support. Portable bases shall secure the temporary fencing during windy conditions (up to 50 miles per hour). CONTRACTOR shall immediately repair security fencing that is blown down or damaged by CONTRACTOR or the public.

3.2 ON-SITE SECURITY PERSONNEL

- A. At CONTRACTOR's discretion, CONTRACTOR may provide its own security personnel. No additional payment will be made for such personnel.
- B. CONTRACTOR shall ensure that any security personnel have been made aware of the site hazards and provided with the training and medical examination requirements as required to perform the Work.
- C. OWNER shall have the right of approval and rejection of the security personnel assigned to the Work site at any time during the Work.

PART 4 – MEASUREMENT AND PAYMENT

- A. Full compensation for all work described in this Section shall be made as part of the lump sum price Bid Item No. 3.

END OF SECTION

SECTION 01600 – MATERIAL AND EQUIPMENT

PART 1 – GENERAL

1.1 SCOPE

This Section provides requirements for material and equipment used by CONTRACTOR during the Work.

1.2 RELATED SECTIONS

- A. Section 01330 - Submittals and Procedures

1.3 TRANSPORTATION AND HANDLING

- A. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, in a dry and clean condition.
- B. Handle materials as recommended by the manufacturer, with approved equipment in a manner that will prevent damage.
- C. Promptly inspect shipments received to assure that products comply with requirements, quantities are correct, and products are undamaged. Notify ENGINEER of any discrepancies or damage noted.

1.4 STORAGE AND PROTECTION

- A. Store products in accordance with the manufacturer's instructions, with seals and labels intact and legible.
- B. Store sensitive products in weathertight enclosures. Maintain within temperature and humidity ranges required by the manufacturer.
- C. For exterior storage of fabricated products, place on sloped supports above ground.
- D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- E. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.
- F. Arrange storage to provide access for inspection and inventory. Periodically inspect to assure that products are undamaged and are maintained under required conditions.

1.5 PRODUCT OPTIONS

- A. Products specified by reference standards or by description only: Any product meeting those standards and all applicable requirements of the Contract.
- B. Products specified by naming one or more manufacturers as acceptable but not listing as "Sole Source" may be considered for substitution. Submit a written request in accordance with the requirements of Paragraph 1.6 (below) for the substitution of an alternate manufacturer.
- C. Products specified by naming one or more manufacturers and stating "Sole Source" will not be considered for substitution unless their availability will clearly affect the stated Project Completion Date.

If such a case does develop, submit a written request in accordance with the requirements of Paragraph 1.6 (below) for the substitution of an alternate manufacturer.

1.6 SUBSTITUTIONS

- A. Each request shall be submitted in writing to ENGINEER with complete data substantiating compliance of proposed substitution with the Contract.
- B. Request constitutes a representation that CONTRACTOR:
 - 1. Has investigated proposed product and determined that it meets or exceeds in all respects the specified product.
 - 2. Will provide the same warranty for substitution as for specified product.
 - 3. Will coordinate installation and make other changes which may be required for work to be complete in all respects.
 - 4. Waives claims for additional costs which may subsequently become apparent.
- C. Each request must clearly state why the substitution is being requested and what benefit will be received by the project by the acceptance of the substitution.
- D. ENGINEER will determine acceptability of proposed substitution and will notify CONTRACTOR of acceptance or rejection in writing within five working days of receipt of the written request.
- E. The use of alternate materials will not be allowed under any condition without the prior written approval of ENGINEER.

PART 2 – PRODUCTS

- A. Products include material, equipment, and packaged systems.
- B. All products shall comply with the project specifications, referenced standards and all applicable regulatory requirements.
- C. Like items of equipment and distinct materials provided shall be from one manufacturer in order to achieve standardization for appearance, maintenance, and replacement.
- D. Unless otherwise indicated, provide materials and equipment which are the standard products of manufacturers regularly engaged in the production of such materials and equipment. Provide the manufacturer's latest standard design that conforms to these Specifications.
- E. Provide materials and equipment with the manufacturer's standard finish, unless otherwise required.
- F. Do not use materials and equipment removed from existing structures, except as specifically required or allowed by the Contract.

PART 3 – EXECUTION

Not used.

PART 4 – PAYMENT

There shall be no separate payment for CONTRACTOR for implementation and compliance with the requirements of this Section. Full compensation for all CONTRACTOR implementation and compliance with this Section under the Contract shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of this Section relate.

END OF SECTION

SECTION 01770 – CONTRACT CLOSEOUT

PART 1 – GENERAL

1.1 SCOPE

Contract Closeout is defined to include general requirements near end of the Contract in preparation for final completion, final payment, normal termination of Contract, and similar actions evidencing completion of the Work.

1.2 PREREQUISITES TO SUBSTANTIAL COMPLETION

- A. Prior to requesting inspection for certification of Substantial Completion, for either entire project or portions thereof, CONTRACTOR shall complete and submit the following, or evidence thereof, along with written request to ENGINEER for inspection:
1. A list of items to be completed or corrected after Substantial Completion, the value of each incomplete item, and reasons for incompleteness of each.
 2. Construction costs for completing including labor, material and all fixtures.
 3. Final cleanup requirements for the Site including the removal of all surplus materials, discarded materials, and rubbish.
 4. All warranties and guarantees.
 5. Partial lien waivers for work completed and for which CONTRACTOR has been paid.
- B. Inspection Procedure: Upon receipt of CONTRACTOR'S request, ENGINEER and OWNER will either proceed with inspection or ENGINEER will advise CONTRACTOR of prerequisites not fulfilled. Following initial inspection, ENGINEER and OWNER will either prepare Certificate of Substantial Completion, or advise CONTRACTOR of work which must be performed prior to issuance of certificate and repeat inspection when assured that Work has been substantially completed. Results of completed inspection will form a "punch-list" of activities to be completed by CONTRACTOR prior to final acceptance.

1.3 PREREQUISITES TO FINAL COMPLETION

- A. Prior to requesting ENGINEER'S and OWNER'S final inspection for certification of final completion and final payment, as required by the General Conditions, CONTRACTOR shall complete and submit to ENGINEER the following and list known exceptions in request:
1. Final payment request with itemized invoice and backup invoices from equipment suppliers and final lien waivers and supporting documentation not previously submitted and accepted.
 2. Updated final statement, accounting for final changes to Contract Sum.
 3. Copy of ENGINEER'S final punch-list of itemized work to be completed or corrected, certifying that each item has been completed or otherwise resolved for acceptance.
 4. Certification from CONTRACTOR'S liability insurance carrier that no claims for death, personal injury, or property damage have been filed or are reasonably anticipated in connection with CONTRACTOR'S Work on the Site.

- B. Re-inspection Procedure: Upon receipt of CONTRACTOR's notice that work has been completed, including punch-list items resulting from earlier inspections and excepting incomplete items delayed because of acceptable circumstances, ENGINEER will re-inspect Work. Upon completion of re-inspection, ENGINEER will either prepare certificate of final acceptance or advise CONTRACTOR of Work not completed or obligations not fulfilled as required for final acceptance. If ENGINEER finds items during walk-through which have not been properly adjusted, reworked, or replaced as indicated on the ENGINEER's punch list from the previous walk-through, CONTRACTOR shall be charged ENGINEER's normal hourly billing rate and reasonable expenses for all subsequent walk-throughs.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

PART 4 – PAYMENT

There shall be no separate payment for CONTRACTOR for implementation and compliance with the requirements of this Section. Full compensation for all CONTRACTOR implementation and compliance with this Section under the Contract shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of this Section relate.

END OF SECTION

SECTION 01900 – HEALTH AND SAFETY REQUIREMENTS

PART 1 – GENERAL

1.1 SCOPE

This Section outlines the health and safety requirements to be followed by the CONTRACTOR during the performance of the Work. It is anticipated that the CONTRACTOR will perform the majority of the work utilizing Level D protection with the ability to upgrade to Level C.

These requirements are in addition to but do not supersede any federal, OSHA, state, Cal/OSHA, or local regulations. If a conflict occurs between these requirements and current regulations, the more stringent shall apply.

These requirements are in accordance with and incorporate the current health and safety guidelines established in the Standard Operating Safety Guides, prepared by the EPA Office of Emergency and Remedial Response, Hazardous Response Support Division, September 1984, and the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, October 1985, and OSHA and Cal/OSHA standards for hazardous waste operations (29 Code of Federal Regulations (CFR) 1910.120 and 8 California Code of Regulations (CCR) 5192).

1.2 RELATED SECTIONS

- A. Section 01330 – Submittals and Procedures
- B. Section 01410 - Regulatory Requirements/Responsibility to the Public
- C. Section 01460 - Environment Protection
- D. Section 01500 - Temporary Facilities and Site Controls
- E. All Division 2 Sections

1.3 SUBMITTALS

- A. CONTRACTOR shall submit its Site Health and Safety Plan in accordance with Section 01330 - Submittals and Procedures
- B. CONTRACTOR shall submit OSHA 40-hour training certificates and current 8-hour update certificates for each worker that enters the Exclusion Zone and Contamination Reduction Zone areas and maintain a file of these certificates on-site (see Paragraph 1.6).

1.4 HAZARDOUS MATERIALS HEALTH AND SAFETY

- A. In addition to the guidelines referenced above, the following regulations and references apply to performance of the Work:
 - 1. Hazardous Waste Operations and Emergency Response - 29 CFR 1910.120 and 8 CCR 5192
 - 2. Occupational Safety and Health Administration (OSHA), Construction Industry Standards - 29 CFR 1926
 - 3. Occupational Safety and Health Administration (OSHA), General Industry Standards - 29 CFR 1910

4. Cal/OSHA Standards – Title 8 CCR

1.5 **CONTRACTOR'S RESPONSIBILITIES**

- A. CONTRACTOR is solely responsible for the health, safety, and protection of CONTRACTOR'S on-site personnel or subcontractors during the performance of the Work. CONTRACTOR shall perform the Work specified in these Contract Documents in accordance with the health and safety requirements specified herein, including the current edition of the Standard Operation Safety Guides and OSHA Guidance Manual, and all federal, OSHA, state, and local health and safety regulations. It shall be the responsibility of the CONTRACTOR to be familiar with the required health and safety regulations in the performance of this Work.
- B. CONTRACTOR shall prepare a Site-specific Health and Safety Plan in accordance with Laws and Regulations. CONTRACTOR's Health and Safety Plan shall be prepared under the supervision of and be signed by a Certified Industrial Hygienist.
- C. CONTRACTOR shall provide a Health and Safety Officer to implement, monitor, and enforce its Site Health and Site Safety Plan. The Health and Safety Officer shall have a sound working knowledge of federal and state occupational safety and health regulations and formal educational training in occupational safety and health.
- D. The Health and Safety Officer may implement requirements in addition to those specified herein.
- E. CONTRACTOR's bid shall be based on use of specific levels of personal protection for various portions of the Work as described in the Contract Documents. It is anticipated that CONTRACTOR will perform the majority of the work utilizing Level D protection with the ability to upgrade to Level C. Use of such levels in preparing the bid shall in no way influence the proper selection by CONTRACTOR of appropriate levels of worker protection in accordance with CONTRACTOR's Site Health and Safety Plan based on actual Site conditions.
- F. Should any unforeseen or site-specific safety regulated factor, hazard, or condition become evident during the performance of the Work, CONTRACTOR shall take immediate and prudent action to establish and maintain safe working conditions and to safeguard Site personnel, the public and the environment. CONTRACTOR shall also immediately inform the ENGINEER of such a condition.

1.6 **WORK AREAS**

- A. The CONTRACTOR shall clearly lay out and identify Work areas or zones in its Site Health and Safety Plan and shall limit equipment, operations, and personnel in the areas as defined below:
 - 1. **Exclusion Zone:** The exclusion zone (EZ) is the zone where contamination does or could occur. All people entering the exclusion zone shall wear prescribed levels of protection. An entry and exit check point shall be established at the periphery of the exclusion zone to regulate the flow of personnel and equipment into and out of the zone and to verify that the procedures established to enter and exit are followed.
 - 2. **Contamination Reduction Zone:**
 - a) Between the exclusion zone and the support zone is the contamination reduction zone (CRZ), which provides a transition between contamination and clean zones. The CRZ serves as a buffer to further reduce the probability of the clean or support zone becoming contaminated or being affected by other existing hazards. It provides additional assurances that the physical transfer of

contaminating substances on people, equipment, or in the air is limited through a combination of decontamination, distance between exclusion and support zones, air dilution, zone restrictions, and Work functions.

- b) At the boundary between the EZ and CRZ, decontamination station(s) shall be established, one for personnel and small equipment, and one for heavy equipment. Facilities shall be provided as specified to provide for adequate decontamination of personnel and equipment and to maintain the cleanliness of the contamination reduction zone.
- 3. Support Zone: This area is defined as being an area outside the zone of contamination. The support zone (SZ) shall be clearly delineated and shall be secured against active or passive contamination from the work Site. The function of the area includes:
 - a) An entry area for personnel, material, and equipment to the area of Work,
 - b) An exit area for decontaminated personnel, materials, and equipment from the Work area,
 - c) The housing of Site services; and
 - d) a storage area for clean safety and Work equipment.

1.7 PERSONNEL PROTECTION PROGRAM/SITE HEALTH AND SAFETY PLAN

- A. CONTRACTOR shall establish and maintain a complete Health and Safety Program for all personnel working at the Site including personnel that are not CONTRACTOR's employees or subcontractors. CONTRACTOR shall prepare a Site Health and Safety Plan that describes the Site and potential hazards and prescribes monitoring requirement, personal protection requirements and criteria for their selection, Work practices and limitations, and emergency response.
- B. CONTRACTOR shall certify that all CONTRACTOR, subcontractor, or service personnel entering the EZ or CRZ for the purpose of the Work, for health, safety, security, or administration purposes, for maintenance, or for any other Site-related function, have received safety training as defined in Paragraph (3) of 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response, Interim Final Rule," including supervisory personnel.
- C. CONTRACTOR shall be responsible for and guarantee that personnel not successfully completing the required training are not permitted to enter the EZ or CRZ for any reason during Work activities.
- D. CONTRACTOR shall provide and require that all previously trained CONTRACTOR, subcontractor, or service personnel assigned to or entering the EZ and CRZ are capable of and familiar with the use of safety, health, respiratory, and protective equipment and with the safety and security procedures required for this operation.
- E. All personnel utilizing respiratory protection equipment shall be fit tested and properly trained and experienced in their use. All respiratory protection equipment that is utilized shall be properly decontaminated and sanitized at the end of each work day.
- F. CONTRACTOR shall provide all on-site personnel with appropriate personal safety equipment and protective clothing. CONTRACTOR shall ensure that all safety equipment and protective clothing is kept clean and well-maintained. All personal protective equipment shall be properly disposed of or decontaminated at the end of the work day.

1.8 INITIAL ON-SITE TRAINING

- A. CONTRACTOR shall provide Site-specific training to all personnel who will work on the Site, including personnel that are not CONTRACTOR's employees or subcontractors. This site-specific training shall include, but not be limited to, all items listed below, including emergency procedures for chemical exposure or release, fire, or explosion, and personal injury:
1. Acute and chronic effects of any toxic chemicals identified at the Site
 2. Physical health hazards identified at the Site
 3. Personal hygiene
 4. Safety equipment and procedures required for personal protection
 5. Proper use and fitting of respirator protection equipment
 6. Work zones established at the Site
 7. Decontamination procedures
 8. Prohibitions in contaminated areas:
 - a. Beards and long sideburns, if respiratory protection is anticipated or required
 - b. Eating, smoking, chewing
 - c. Working when ill
 - d. Working under the influence of alcohol or drugs
 9. Buddy system explained
 10. Emergency response

1.9 EMERGENCY AND FIRST AID REQUIREMENTS

- A. CONTRACTOR shall pre-arrange for emergency medical care services at a nearby medical facility and establish emergency routes. CONTRACTOR shall establish communications links with health and emergency services to inform them of any emergency situations that may arise.
- B. In the event of any emergency associated with or resulting from Work at this Site, CONTRACTOR shall cease Work activity on the Site, as appropriate, per CONTRACTOR's Site Health and Safety Plan. CONTRACTOR shall also take diligent action to remove or otherwise minimize the cause of the emergency, render full assistance to local authorities to remedy any impact on local residents or property, alert ENGINEER, and institute whatever measures might be necessary to prevent any repetition of the conditions or actions leading to or resulting in the emergency.
- C. CONTRACTOR shall have at least one certified First Aid Technician on-site at all times. This person may perform other duties, but must be immediately available to render first aid when needed. Certification shall be current, kept on-site, and consist of successful completion of an American Red Cross course in Multi-Media First Aid and Cardio-Pulmonary Resuscitation (CPR).

1.10 PERSONAL HYGIENE AND DECONTAMINATION

- A. CONTRACTOR shall be responsible for, and ensure that all CONTRACTOR, subcontractor, and service personnel performing or supervising remedial Work within the EZ or CRZ, or exposed or subject to exposure to hazardous chemical vapors, liquids, dusts, or contaminated solids, observe and adhere to the personal hygiene-related provisions of this Section, the EPA Standard Operating Safety Guides, and all federal and OSHA regulations and guidance.
- B. CONTRACTOR, subcontractor, and service personnel found to be consistently disregarding the personnel hygiene-related or health and safety provisions of this plan shall, at the request of the ENGINEER, be barred from the Site at no cost to OWNER or ENGINEER.
- C. CONTRACTOR shall provide all personnel, materials, and equipment needed to support their health and safety program. Equipment shall include:
1. Suitable disposable outer wear, gloves, hard hats, and footwear on a daily basis for the use of all on-site personnel including ENGINEER.
 2. Appropriate NIOSH Certified respiratory protection equipment, if required, in sufficient quantities for all CONTRACTOR on-site personnel.
 3. Canisters, cartridges, spare parts, repair tools, hoses, connectors, and other respiratory protection support items as needed.
 4. Contained storage and disposal for used outer wear.
 5. Hand washing facilities.
 6. A facility for changing into and out of and storing work clothing, separate from street clothing, including separate facilities for women.
 7. Sanitation facilities as specified in 29 CFR 1926.
 8. A lunch and/or break area.
 9. A smoking area well separated from the EZ and CRZ.
- D. Used disposable outer wear shall not be reused, and when removed, shall be placed inside disposal containers provided for that purpose and managed in accordance with Section 02120 – Waste Management and Off-Site Disposal.
- E. Smoking, chewing tobacco, eating, and drinking shall be prohibited in the EZ and CRZ.
- F. Soiled disposable outer wear shall be removed prior to leaving the CRZ to enter the SZ, and prior to cleansing hands.

1.11 VEHICLE AND EQUIPMENT DECONTAMINATION

- A. The Contractor Work Plan shall provide a plan for removing contaminants from personnel and equipment that contact sludge, waste, stabilized waste, pond water, or other waste materials. Additional requirements for equipment decontamination are provided in Section 01500 – Temporary Facilities and Controls.

- B. CONTRACTOR shall submit with its Site Health and Safety Plan the proposed method for collecting and disposing of wash water and other decontamination fluids.
- C. Personnel engaged in vehicle decontamination shall wear protective equipment including disposable clothing and respiratory protection as necessary.

1.12 WORK AREA AIR MONITORING

- A. During the progress of the Work and as required by CONTRACTOR's Site Health and Safety Plan, CONTRACTOR shall monitor the quality of the air in and around each active Work location on a regular periodic basis (continually when respiratory protection is worn) to determine the need for respiratory protection and/or an upgrade in personal protective equipment. Monitoring shall comply with the requirements of Paragraph (h) of 29 CFR 1910.120 and any other applicable requirements. Any departures from general background shall be entered in the monitoring and project logs.
- B. CONTRACTOR shall maintain a log of the location, time, type, and value of each reading. Copies of daily log sheets shall be included in a daily report to the ENGINEER and shall be provided within 24 hours.
- C. Contractor's Site Health and Safety Plan shall indicate air monitoring readings or indications that will be used to initiate protective actions including, but not limited to, use of personal protective devices and Site evacuation. CONTRACTOR shall provide justification for such action levels in his Site Health and Safety Plan.

1.13 VEHICAL TRAFFIC

Reckless driving will not be allowed at the Site. Excessive speed and/or reckless driving may result in suspension or dismissal of the operator of the vehicle. All motor driven equipment using fuel shall have spark arrestors.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

PART 4 – PAYMENT

There shall be no separate payment for CONTRACTOR for implementation and compliance with the requirements of this Section. Full compensation for all CONTRACTOR implementation and compliance with this Section under the Contract shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of this Section relate.

END OF SECTION

DIVISION 2: SITE CONSTRUCTION

SECTION 02050 – DEMOLITION

PART 1 – GENERAL

1.1 SCOPE

Work under this section includes pre-excavation utilities locating and coordination with the OWNER and utility service companies locating all utilities within the area of proposed Work. Work under this section also includes demolition, removal, loading, and recycling or off-site disposal of certain features, identified on the Drawings.

All demolition materials, including existing vegetation, concrete curbs, and asphalt pavements, shall be recycled or disposed at OWNER-approved facilities.

1.2 RELATED REQUIREMENTS

- A. The Drawings, the provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to the Work of this Section.
- B. Section 01501 - Dust Control
- C. Section 01502 - Storm Water Pollution Controls
- D. Section 01550 - Traffic Controls
- E. Section 01560 - Site Security
- F. Section 02114 - On-Site Soil and Waste Stockpiling
- G. Section 02120 - Off-Site Transportation and Disposal

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

1.3 LOCATE UTILITIES

Prior to beginning demolition, CONTRACTOR shall notify Underground Service Alert (USA) and the OWNER to identify the location of all utilities in the work area. CONTRACTOR shall coordinate with the utility owner(s) or operator(s) to confirm locations and whether the utilities have been disconnected.

3.2 REMOVE EXISTING VEGETATION

CONTRACTOR shall remove all trees and shrubs present in excavation areas and recycle or dispose of the vegetation at an OWNER-approved off-site facility in accordance with 02120 – Transportation and Off-Site Disposal. CONTRACTOR shall perform vegetation removal for each excavation area less than 3 working days prior to excavating impacted soil in the corresponding excavation area. The OWNER will perform wildlife nest surveys within 24 hours of vegetation removal to identify measures that will be required to protect nesting birds that are identified in the area. CONTRACTOR shall not perform vegetation removal prior to receiving written authorization from the OWNER or ENGINEER.

3.3 PREPARE FOR AND PERFORM DEMOLITION

CONTRACTOR shall perform the following prior to beginning demolition activities and during demolition activities:

- A. Perform surveys as the work progresses to detect potential hazards resulting from demolition activities.
- B. Provide equipment capable of breaking and removing asphalt and concrete surfaces, as necessary to perform the Work.
- C. Provide adequate sprinkling of water during demolition to minimize dust created in the removal process, in accordance with Section 01501 – Dust Control.
- D. CONTRACTOR shall dispose of demolished items and materials promptly. CONTRACTOR shall not crush concrete on-site. On-site sale of removed items without prior written permission from OWNER or ENGINEER is prohibited.
- E. Conduct demolition activities to prevent injury to people.
- F. Ensure safe passage of people around demolition area.
- G. Do not use explosives on the Site.
- H. Assure minimum interference with roads, streets, walks, and other adjacent and nearby facilities.
- I. Multiple layers of asphalt with an unknown total thickness are present within Mason Street. CONTRACTOR shall demolish, remove, load into transport vehicles, and dispose of off-site all asphalt pavement designated for removal and all other site features shown on the Drawings that are designated for removal. CONTRACTOR shall separate impacted soil from removed asphalt and concrete to the extent practical prior to loading for off-Site disposal.
- J. CONTRACTOR shall dispose of removed materials at OWNER-approved off-site facilities in accordance with Section 02120 - Transportation and Off-Site Disposal.
- K. CONTRACTOR shall protect all site features that are not designated for demolition.
- L. CONTRACTOR shall demolish temporary asphalt roadways constructed through existing green spaces and dispose or recycle the asphalt concrete and aggregate base at an OWNER-approved disposal facility in accordance with Section 02120 – Off-Site Transportation and Disposal.

PART 4 – PAYMENT

- A. Payment for CONTRACTOR's removal of existing vegetation as described in Paragraph 3.2 of this Section shall be made at the Lump Sum price under Bid Item No.1.
- B. Payment for labor, equipment, and supplies to demolish asphalt concrete shall be made at the unit price per ton under Bid Item No. 4.

- C. Payment for labor, equipment, and supplies to demolish concrete curbs, gutters, and curb ramps shall be made at the unit price per foot under Bid Item No. 5.
- D. There shall be no separate payment for CONTRACTOR's implementation and compliance with the other requirements of this Section.

END OF SECTION

SECTION 02110 – EXCAVATION OF CONTAMINATED MATERIALS

PART 1 – GENERAL

1.1 SCOPE

This section includes the following:

- A. Excavation of contaminated material from areas shown on the Drawings.
- B. Placement of the material in either a staging area or directly into trucks for off-site disposal.
- C. Additional excavation, on-site transportation, and staging as directed by ENGINEER, based on field indications of contamination or analytical results of confirmation samples.

1.2 RELATED REQUIREMENTS

- A. The Drawings, the provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to the Work of this Section.
- B. Section 01501 - Dust Control
- C. Section 01502 - Storm Water Pollution Controls
- D. Section 01550 - Traffic Controls
- E. Section 01560 - Site Security
- F. Section 01900 – Health and Safety Requirements
- G. Section 02114 - Impacted Soil and Buried Debris Stockpiling
- H. Section 02116 - Contact Water Management
- I. Section 02120 - Off-Site Transportation and Disposal
- J. Section 02351 - Backfilling/Grading

1.3 SUBMITTALS

- A. Daily Excavation Quantity Summaries: CONTRACTOR shall prepare a summary of estimated excavation quantities at the end of each day that soil excavation is performed. These quantities shall be subject to revision for payment purposes based on subsequent measurements that are more precise, and reviewed by ENGINEER. CONTRACTOR shall submit Daily Excavation Quantity Summaries to ENGINEER weekly.
- B. Utility location diagrams. CONTRACTOR shall submit utility location diagrams to ENGINEER 48 hours (minimum) prior to the start of any excavation at the Site.

- C. ENGINEER will perform visual monitoring of dust during the Work at locations and frequencies at the sole discretion of ENGINEER. CONTRACTOR shall coordinate its activities with the perimeter dust monitoring being performed by ENGINEER and shall promptly revise its activities in a manner consistent with dust control requirements outlined in Section 01501-Dust Control, if unsatisfactory monitoring results are obtained.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

3.1 EXCAVATION OF CONTAMINATED MATERIALS

- A. The initial excavation boundaries for each Excavation Area shown on the Drawings will be marked in the field by ENGINEER.
- B. CONTRACTOR is responsible for locating all utilities within or near each excavation area and documenting those locations on the ground and on a diagram submitted to ENGINEER at least 48-hours prior to performance of any excavation. CONTRACTOR is responsible for properly terminating any abandoned utility that is disrupted and providing Northing, Easting and elevation data so that the terminus can be relocated.
- C. CONTRACTOR shall excavate soil from each Excavation Area shown on the Drawings or as otherwise directed by ENGINEER. CONTRACTOR shall not perform excavation work unless ENGINEER's representative is present.
- D. CONTRACTOR shall implement measures to limit the entry of storm water to the excavations, such as installation of temporary berms or pumping around the excavation. The methods to be used by CONTRACTOR to minimize impacts from storm water run-on shall be described in the Construction Plan.
- E. After the initial excavation, the area will be inspected by ENGINEER to determine if the excavation needs to be increased in size or depth. Further required excavation by CONTRACTOR will only be performed at the direction of ENGINEER.
- F. If workers are to enter excavations 4 feet deep or greater, access ramps or other means of egress must be provided by CONTRACTOR. If workers are to enter excavations 5 feet deep or greater, CONTRACTOR shall provide shoring, benching or sloping in accordance with all applicable Federal, State, and local regulations. CONTRACTOR shall segregate any soil removed for benching, ramping, or sloping areas that are outside the initial extent of excavation and stockpile and manage this soil within the excavation or in accordance with Section 02114 – Soil and Waste Stockpiling. ENGINEER will perform sampling and analysis of sloping and benching material to determine its final disposition within 1 week of its generation. If directed by ENGINEER, CONTRACTOR shall place and compact benching and sloping material within the excavation in accordance with 02351 – Backfilling and Grading at no additional cost to OWNER. If directed by ENGINEER, CONTRACTOR shall dispose of this material off-site in accordance with Section 02120 – Off-Site Transportation and Disposal.
- G. CONTRACTOR shall provide all shoring, bracing, benching, or sloping required to protect adjacent structures and traffic as described in Section 02260 – Excavation Support.

- H. As described in Section 02114 – Contaminated Soil, Waste, and Buried Debris Stockpiling, excavated contaminated soil shall be stockpiled in such a manner that prevents contamination of or mixture with uncontaminated soil. If CONTRACTOR elects to load materials for direct transportation and off-site disposal, CONTRACTOR shall submit a Soil Loading and Disposal Plan for review by OWNER. This plan shall describe the areas where excavated soil will be directly loaded, the proposed disposal site, and methods that CONTRACTOR will use to profile the soil in advance of off-site disposal. CONTRACTOR shall not load excavated soil for direct transportation and off-site disposal prior to OWNER-approval of the Soil Loading and Disposal Plan.

3.2 SOIL SAMPLING

- A. ENGINEER is responsible for soil screening and the collection and analysis of soil samples to identify potential environmental impacts.
- B. CONTRACTOR shall provide equipment and personnel available to assist ENGINEER with soil sample collection in excavations 4 feet deep or greater. This equipment is anticipated to consist of a backhoe or equivalent.
- C. CONTRACTOR shall anticipate a 72-hour turn around time for the results of soil samples collected from the base and sidewalls of the Excavation Areas shown on the Drawings. During this period, CONTRACTOR shall not backfill the subject portion of the excavation, and shall maintain all necessary site controls. Based on the results of the soil sample analysis, ENGINEER may direct CONTRACTOR to perform additional excavation or to backfill and restore the excavation area. No payment will be made for standby or delay claims for waiting for soil sample results.

3.3 PROTECTION OF EXISTING FACILITIES

- A. CONTRACTOR shall be responsible for locating existing utilities and protecting existing structures to be left in place, including roads, building foundations, buried utilities, and other above ground and buried structures.
- B. CONTRACTOR shall not begin excavation at the Site without written authorization from ENGINEER. This authorization will verify that the extent of excavation has been marked in the field and that CONTRACTOR has submitted documentation to ENGINEER that indicates that CONTRACTOR has obtained clearance for potential buried utilities within each excavation area. If known utilities are present in the vicinity of the excavation, CONTRACTOR will indicate and verify that they have been marked by the appropriate utility, and that markings are still visible in the field. CONTRACTOR shall also contact owners of utilities identified by CONTRACTOR to be within the excavation areas and convey any special excavation restrictions obtained from the owners of those utilities to ENGINEER. CONTRACTOR shall comply with these excavation restrictions. CONTRACTOR is responsible for protecting underground utilities at the Site during completion of the work and shall repair at its own expense all damage to underground utilities caused by the Work.
- C. Unless otherwise authorized by the Owner, all utilities are to remain in place in their current alignment and CONTRACTOR shall protect and support them in place during completion of excavation and backfill activities. It is CONTRACTOR's responsibility to obtain approval from the respective utility companies for protection and support measures and to present such measures for Engineer's approval.
- D. CONTRACTOR shall replace in kind and at its own expenses any site features shown on the Drawings as to be protected that are damaged by CONTRACTOR during the work.

3.4 CONSTRUCT TEST TRENCHES

CONTRACTOR shall provide personnel and equipment to excavate test trenches to depths up to 10 feet below grade at locations selected by ENGINEER. CONTRACTOR shall place soil removed from test trenches in the soil staging areas shown on the Drawings for characterization and off-site disposal. CONTRACTOR shall manage and dispose of stockpiled soil in accordance with Section 02114 – Soil and Waste Stockpiling and Section 02120 – Off-Site transportation and Disposal. Test trenches may remain open until analytical data is obtained from soil samples collected by ENGINEER. CONTRACTOR shall surround open test trenches with barricades and temporary chain-link fencing in accordance with Section 01560 – Site Security. For bidding purposes, CONTRACTOR shall assume that ENGINEER will request construction of 6 test trenches 3 feet by 15 feet in size to a depth of 10 feet and that the test trenches will remain open for 1 week prior to backfilling. CONTRACTOR shall assume that 4 of the 6 test trenches will be constructed in the footprint of the existing pedestrian and bicycle path within the extent of the TPHg Source area after implementation of the Phase 3 traffic controls shown on the Drawings.

If requested by ENGINEER, CONTRACTOR shall backfill test trenches in accordance with Section 02351 – Backfilling and Grading and install pavement in the test trench areas in accordance with Section 02740 – Asphalt Concrete Pavement.

PART 4 – PAYMENT

- A. Payment for labor, equipment, and supplies to excavate, stockpile, and relocate impacted soil shall be made at the unit price per ton under Bid Item No. 6.
- B. Payment for labor, equipment, and supplies to construct test trenches as described in Paragraph 3.4 shall be made at the contract lump sum price under Bid Item 17.
- C. CONTRACTOR shall not be compensated under this section for any unauthorized over-excavation. An estimate of the anticipated quantity for excavation has been provided in the Bid Form. CONTRACTOR shall multiply the unit quantity actually excavated by CONTRACTOR'S Bid price for this item. Payment shall be full compensation for all labor, equipment, material, trenching, overburden removal, excavation of contaminated materials, stockpiling, utilities caps, on-site management, record keeping, reporting, maintenance, peripheral grading and all other incidentals that may be necessary for excavation, stockpiling and on-site management as indicated on the Drawings and described in this Section 02114 – Soil and Waste Stockpiling, and Section 01110 - Summary of Work.

END OF SECTION

SECTION 02114 – SOIL AND WASTE STOCKPILING

PART 1 – GENERAL

1.1 SCOPE

This Section covers the requirements for stockpiling excavated materials at the Site. Excavated materials shall be stockpiled at the Site pending classification or off-site disposal, except for ENGINEER-approved materials loaded directly into trucks for off-site transport and disposal. If CONTRACTOR elects to load materials for direct transportation and off-site disposal, CONTRACTOR shall submit a Soil Loading and Disposal Plan for review by OWNER. This plan shall describe the areas where excavated soil will be directly loaded, the proposed disposal site, and methods that CONTRACTOR will use to profile the soil in advance of off-site disposal. CONTRACTOR shall not load excavated soil for direct transportation and off-site disposal prior to OWNER-approval of the Soil Loading and Disposal Plan.

CONTRACTOR shall supply all materials, equipment, and services required for excavating, loading, hauling, and stockpiling operations.

1.2 RELATED REQUIREMENTS

- A. The Drawings, the provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to the Work of this Section.
- B. Section 01501 – Dust Control
- C. Section 01502 – Storm Water Pollution Controls
- D. Section 01900 – Health and Safety Requirements
- E. Section 02110 – Excavation of Contaminated Materials
- F. Section 02120 – Off-Site Transportation and Disposal

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

3.1 MATERIAL SEGREGATION

- A. Materials shall be segregated for stockpiling based on the results of previous testing or evaluation by ENGINEER. Seven categories of material that will be generated on-Site.
 - 1. Vegetation
 - 2. Demolition debris
 - 3. Soil from the TPHg Source Area
 - 4. Soil from the Building 626 Area

5. Soil from FDS Pipeline Residuals Area 1
 6. Soil from FDS Pipeline Residuals Area 2
 7. Soil from FDS Pipeline Residuals Area 3/AST 634 Area
- B. CONTRACTOR shall establish and maintain separate stockpiles for different categories of material and maintain segregation of the materials in the separate stockpiles, as required by ENGINEER. The separate stockpiles shall be approximately 500 cubic yards in size.
- C. Potential stockpile locations are shown on the Drawings. Prior approval for additional stockpile locations shall be obtained by CONTRACTOR from ENGINEER.

3.2 MATERIAL PLACEMENT AND STOCKPILE MAINTENANCE

- A. CONTRACTOR shall maintain stockpiles until the stockpiled material is transported off-site. CONTRACTOR shall not dispose of any materials from a stockpile without approval from ENGINEER.
- B. Stockpiles shall be protected from storm water run-on/run-off and shall have effective erosion and sedimentation control features in accordance with Section 01502 – Storm Water Pollution Controls. All materials placement shall be in accordance with the requirements of the Storm Water Pollution Prevention Plan.
- C. Stockpiles shall be placed on existing asphalt or concrete pavements and the sides shall be bermed with K-rails. A 10-mil polyethylene liner shall be placed over the existing pavement and over the K-rails to form a basin. Stockpiles shall be maintained normally covered with weighted 10-mil polyethylene sheeting after each soil placement operation. CONTRACTOR shall take care to minimize damage to plastic sheeting during soil placement and loading activities. CONTRACTOR shall repair or replace damaged plastic sheeting before the end of each work day and immediately upon completion of each soil placement or loading event. Before the end of each work day, CONTRACTOR shall inspect soil stockpile areas to determine if stockpiled soil has come into contact with the underlying pavement. CONTRACTOR shall immediately collect all stockpiled soil that is observed by CONTRACTOR, OWNER, or ENGINEER to be in direct contact with the underlying pavement with heavy equipment, shovels, and/or brooms. CONTRACTOR shall place this stockpiled material on polyethylene sheeting within the designated stockpile areas.

3.3 WASTE CLASSIFICATION TESTING

- A. ENGINEER will perform sampling and analysis to classify stockpiled soil for disposal. ENGINEER will collect waste classification samples within two days of receipt of a written request from CONTRACTOR confirming that at least 500 cubic yards of stockpiled soil is ready to be sampled. CONTRACTOR shall anticipate a 7 working day turn around time for the results of waste classification samples. CONTRACTOR shall not dispose or move stockpiled soil until authorized by ENGINEER.

3.4 DISPOSAL

- A. CONTRACTOR shall manage transportation and off-Site disposal of excavated soil and demolition debris, as specified in Section 02120 - Off-Site Transportation and Disposal.

PART 4 – PAYMENT

There shall be no separate payment for CONTRACTOR or Subcontractor incidentals pursuant to implementation and compliance with the requirements of this Section. Full compensation for all CONTRACTOR implementation and compliance with this Section under this contract shall be considered as included in the contract unit or lump sum prices for the various items of the contract to which the requirements of this Section relate.

END OF SECTION

SECTION 02116 – CONTACT WATER MANAGEMENT

PART 1 – GENERAL

1.1 SCOPE

- A. This Section covers the requirements for CONTRACTOR's management of potentially contaminated water and liquids ("Contact Water") at the Site. The following types of Contact Water may be generated, requiring collection and management in association with this project:
 - 1. Groundwater that enters excavation areas during the Work;
 - 2. Groundwater or storm water that collects in bermed soil staging areas;
 - 3. Storm water that collects in excavation areas during the Work; and
 - 4. Decontamination water.
- B. CONTRACTOR shall collect, store in bulk, transfer and properly manage all Contact Water generated on-site for the duration of the Work.
- C. CONTRACTOR shall supply all materials, equipment, and services required for pumping or vacuum collecting, treating, storing on-Site prior to characterization by ENGINEER, and transporting Contact Waters to sanitary sewer discharge locations shown on the Drawings.
- D. CONTRACTOR shall perform Contact Water management in accordance with Federal, State and Local requirements.
- E. CONTRACTOR shall perform Contact Water management in accordance with the requirements of the Storm Water Pollution Prevention Plan, which is discussed in Section 01502 - Storm Water Pollution Controls.

1.2 RELATED SECTION

- A. Section 01502 - Storm Water Pollution Controls
- B. Section 01900 - Health and Safety Requirements
- C. Section 02110 - Excavation of Contaminated Material
- D. Section 02114 – On-Site Soil and Waste Stockpiling

PART 2 – PRODUCTS

2.1 EQUIPMENT

- A. Vacuum lift system, pumps, and pipes or hoses for recovery and transfer of Contact Water from excavation areas, decontamination facilities, storage tanks, or other locations to the groundwater discharge locations shown on the Drawings.
- B. Equipment for Contact Water collection, treatment, storage, and transportation.

- C. All equipment utilized for collection, transfer and storage of Contact Water shall be certified by CONTRACTOR to be free of any contaminants prior to first use and shall be made available for inspection by the ENGINEER.

PART 3 – EXECUTION

3.1 CONTACT WATER COLLECTION, TREATMENT, TEMPORARY STORAGE, AND DISCHARGE

- A. CONTRACTOR shall collect via vacuum and/or pumping Contact Waters present in open excavations and free water that collects within soil staging areas. CONTRACTOR shall utilize a weir tank or equivalent to remove free phase hydrocarbons and sediment that may be present in the Contact Water. CONTRACTOR shall temporarily store treated water in above-ground storage tanks until analytical testing indicates that the water meets the discharge requirements of the OWNER's San Francisco Public Utilities Commission (SFPUC) permit. A copy of the OWNER's SFPUC permit is provided as Attachment 1 of this section. CONTRACTOR shall furnish and install all conveyance piping required to transport water from the excavation areas to the treatment and storage tanks and from the treatment and storage tanks to the discharge point.
- B. CONTRACTOR shall remove from open excavations the minimum amount of water required to allow the following tasks to be performed in accordance with the project specifications:
1. Excavation of petroleum-impacted soils.
 2. Collection of confirmation soil samples.
 3. Surveying the excavation limits.
 4. Backfilling the excavation.
- C. CONTRACTOR shall not remove Contact Water from excavations unless ENGINEER's representative is present, unless ENGINEER grants approval in advance.
- D. ENGINEER will collect and analyze waste characterization samples from the first tank of water extracted from each excavation area. CONTRACTOR shall anticipate a one week turn around time for the results of water samples collected from above-grade storage tanks. During this period, CONTRACTOR shall not discharge water to the SFPUC sanitary sewer, and shall maintain all necessary site controls. Based on the results of the water sample analyses, ENGINEER may direct CONTRACTOR to discharge water to the sanitary sewer through on-Site manholes in accordance with the requirements of the OWNER's SFPUC permit.
- E. CONTRACTOR shall provide totalizing flow measuring devices on the water discharge lines for the purpose of flow monitoring. Measuring devices shall be easy to maintain and calibrate, with minimal interruption of service. The type of flow meter selected shall be accurate to 1 gallon of water measured. Water flow rate monitoring shall be in accordance with manufacturer's instructions for the flow monitoring devices. The CONTRACTOR shall:
1. Develop a calibration regimen for the flow meter; the calibration regimen shall be approved by the ENGINEER.
 2. Calibrate the flow meter as instructed by the Manufacturer.
 3. Record instrument readings on Operations Logs at least daily.

4. Provide, in each Operations Report, any assumed values that were used to calculate flow rates.
- F. CONTRACTOR shall clean the weir tank and storage tanks, as needed, during dewatering and shall perform a final cleaning of the tanks when dewatering is complete. CONTRACTOR shall discharge all rinse water from tank cleaning operations to the SFPUC sanitary sewer. CONTRACTOR shall dispose of sediment from tank cleaning operations along with excavated soil as described in Section 02120 – Off-Site Transportation and Disposal.
- G. If free phase petroleum is present in the Contact Water, CONTRACTOR shall remove the free phase petroleum from the Contact Water in accordance with Paragraph 3.1A and place the free phase petroleum in above-grade storage tanks or drums for characterization and disposal. For bidding purposes, CONTRACTOR shall assume that characterization and off-Site disposal of free phase petroleum will be performed by others.

3.2 CONTROL OF STORM WATER

CONTRACTOR shall adhere to the SWPPP. CONTRACTOR shall prevent to the maximum degree practicable the entry of storm water into open excavations.

CONTRACTOR shall not be paid for treatment of Contact Water created due to CONTRACTOR's failure to implement successful management practices for storm water. This determination will be made by ENGINEER. Under no circumstances will CONTRACTOR be compensated for treatment of storm water diverted into the excavation areas.

PART 4 – PAYMENT

Full compensation for all work described in this section shall be made at the contract unit price per 1,000-gallon of contact water discharged under Bid Item No. 9.

END OF SECTION

SECTION 02120 – OFF-SITE TRANSPORTATION AND DISPOSAL

PART 1 – GENERAL

1.1 SCOPE

- A. CONTRACTOR shall be responsible for the removal and disposal of all wastes generated at the Site in association with the Work and all materials remaining on-site at the end of the Work.
- B. CONTRACTOR shall be responsible for making all arrangements for acceptance of waste generated during clearing and grubbing and demolition of existing site improvements at OWNER-approved disposal facilities.
- C. CONTRACTOR shall ensure that all storage, loading, and transportation of waste are in compliance with applicable federal, state, and local transportation regulations.
- D. CONTRACTOR shall be responsible for storing wastes prior to disposal and for transporting wastes to off-site disposal locations approved by the OWNER.
- E. CONTRACTOR shall supply all materials, equipment and services required for storage and transportation of wastes associated with the Work.
- F. ENGINEER will be responsible for collecting soil samples for characterizing the waste to determine appropriate off-site disposal options.
- G. The OWNER will be responsible for signing all Hazardous Waste Manifests (hazardous) and Bills of Lading (Non-hazardous), and will be identified as Generator on all waste-related documents.

1.2 RELATED SECTIONS

- A. Section 02110 – Excavation of Contaminated Material
- B. Section 02114 – Soil and Waste Stockpiling

1.3 SUBMITTALS

- A. Identification of Waste Transportation Subcontractors: CONTRACTOR shall obtain and submit to ENGINEER letters of commitment from waste transporters agreeing to handle any wastes generated by performance of the Work and shall attach the following information for each waste transportation company (This information shall be submitted within 7 calendar days of a request from ENGINEER):
 - 1. Name and EPA identification number.
 - 2. A copy of the company's California Department of Transportation license.
 - 3. Address and telephone number.
 - 4. Name and telephone number of responsible contact.
 - 5. List of types and sizes of all transport vehicles and equipment to be used.

6. A description of proposed transportation methods, schedules and procedures for hauling waste material, including type of vehicles that will be used for each class of waste and frequency of transport.
 7. Any and all necessary permit authorizations for each class of waste transported.
- B. Waste Manifests/Bills of Lading: CONTRACTOR shall prepare a manifest for each load of hazardous waste and Bill of Lading for each non-hazardous waste stream. As specified in Part 3.2, these manifests/Bills of Lading shall be delivered to the OWNER for the OWNER's signature prior to shipment. This information shall be submitted a minimum of 48 hours prior to shipment.
- C. Final Waste Manifest/Bills of Lading Records: CONTRACTOR shall submit completed waste manifest records within two business days after notification of receipt at the disposal facility. OWNER reserves the right to withhold payment for waste disposal for which the final waste manifest/bills of lading are not received.
- D. Disposal Log: CONTRACTOR shall create and maintain a log for tracking disposal information for all wastes removed from the Site. The Disposal Log shall be in tabular format and include the following information for each load of material disposed:
- Waste manifest number
 - Date transported from the Site
 - Source of the waste (e.g., location)
 - Date received at disposal facility
 - Waste type (e.g. soil, municipal waste, etc.)
 - Load weight as measured at the disposal facility
 - Name of disposal facility
- The CONTRACTOR's Disposal Log shall be updated and submitted to ENGINEER every 7 calendar days.
- E. Disposal Facility Weight Records: CONTRACTOR shall submit copies of all weight records obtained from the disposal facilities. CONTRACTOR shall submit the weight record copies weekly, attached to the Disposal Log described in Paragraph D. OWNER reserves the right to withhold payment for waste disposal for which the final waste manifest/bills of lading are not received.

1.4 PERMITS AND FEES

CONTRACTOR shall be responsible for obtaining and paying for all permits and fees required for completion of the work.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

3.1 OFF-SITE TRANSPORTATION

- A. CONTRACTOR shall transport wastes to off-site locations approved by the OWNER.
- B. CONTRACTOR shall only use the transporter(s) identified in CONTRACTOR's approved submittals for the performance of work. Any use of substitute or additional transporters must have previous written approval by ENGINEER. CONTRACTOR shall be responsible for any additional costs that may be incurred for utilizing alternate transportation.

3.2 MANIFEST PROCEDURES

- A. CONTRACTOR shall utilize a state-approved manifest system so that wastes can be tracked from generation to ultimate disposal. The manifests must comply with all the provisions of the transportation and disposal regulations. CONTRACTOR shall be responsible for preparing manifests for each load a minimum of 48 hours prior to shipment. If the manifest is acceptable, the OWNER will provide the generator number and sign the generator's certification portion of the manifests. If the manifest is not acceptable, CONTRACTOR shall make all corrections at no additional cost to ENGINEER or OWNER.
- B. CONTRACTOR shall be responsible for accurate and timely completion of final manifests. All transporters must sign the appropriate portions of the manifest and must comply with all of the provisions established in state and federal DOT regulations. The disposal facility must sign the appropriate portions of the manifest and return it to CONTRACTOR the day of disposal. OWNER reserves the right to withhold payment for waste disposal for which final manifests are not received.

3.3 SPILL PREVENTION

CONTRACTOR shall utilize appropriate vehicles and operating practices to prevent spillage or leakage of materials from occurring on-site or en-route.

3.4 CONTAMINATION PREVENTION

- A. Trucks shall be securely covered prior to leaving the site.
- B. CONTRACTOR shall be responsible to assure thorough transport vehicle decontamination and inspections before leaving the site. All vehicles leaving work areas shall be inspected by CONTRACTOR to ensure that no soil adheres to its wheels or undercarriage. Any such material shall be removed at the work area or the decontamination area before the truck is allowed to leave the site.
- C. CONTRACTOR shall regularly inspect offsite roadways along the designated routes that the vehicles take from the site to ensure that no leakage or tracking of mud has occurred. If contaminated materials resulting from leakage or tracking are observed along the designated roadways, CONTRACTOR shall immediately clean the area at CONTRACTOR's expense and modify procedures as necessary to prevent recurrence.
- D. CONTRACTOR shall be responsible for any and all actions necessary to remedy situations involving materials spilled in transit or mud and dust tracked offsite. This cleanup shall be accomplished at the CONTRACTOR's expense.

3.6 DELIVERY SCHEDULE

CONTRACTOR shall coordinate the schedule for truck arrival at the project site(s) and at the disposal facility to meet the approved project schedule. The schedule shall be compatible with waste stockpiling space limitations and the availability of equipment and personnel for material handling operations.

3.7 COMBINATION OF WASTES

CONTRACTOR shall not combine materials from other projects with material from the site.

3.8 QUANTITY RECORDS

CONTRACTOR shall create and maintain a Disposal Log to track quantities of material transported and disposed. The Disposal Log shall be updated prior to the Weekly Progress Meeting and be current up to two days prior to the meeting.

3.9 TRUCK ROUTES AND STAGING AREAS

- A. CONTRACTOR shall utilize only truck routes shown on the Drawings. Vehicles shall not travel on other portions of the Presidio without prior authorization from OWNER.
- B. CONTRACTOR shall schedule and stagger all trucks and material deliveries to minimize on-site and off-site congestion and to prevent accidents. CONTRACTOR shall stage all off-site transportation vehicles in the Truck Staging Areas shown on the Drawings. CONTRACTOR's transportation vehicles shall not be present at the Presidio between the hours of 8 PM and 5 AM. Direct-loading of trucks on active public roadways is strictly prohibited.

PART 4 – PAYMENT

- A. Payment for CONTRACTOR's off-site transportation and recycling or disposal of vegetation removed in accordance with Paragraph 3.2 or Section 02050 – Demolition shall be made at the lump sum price under Bid Item No. 1.
- B. Payment for CONTRACTOR's loading, off-site transportation and appropriate recycling or disposal of material generated during demolition of asphalt concrete shall be made at the contract unit price per ton of asphalt concrete demolished under Bid Item No. 4.
- C. Payment for CONTRACTOR's loading, off-site transportation and appropriate recycling or disposal of all material generated during demolition of concrete curbs, gutters, and curb ramps shall be made at the contract unit price per foot under Bid Item No. 5.
- D. Payment for CONTRACTOR's off-site transportation and disposal of impacted soil shall be made at the contract unit price listed per ton of soil under Bid Items 7,7a, and 7b.
- E. There shall be no separate payment for CONTRACTOR's implementation and compliance with the other requirements of this Section.

END OF SECTION

SECTION 02260 – EXCAVATION SUPPORT AND PROTECTION

PART 1 – GENERAL

1.1 SUMMARY

- A. The work under this Section includes furnishing all labor, materials, appliances, tools, equipment, transportation, services, and supervision required for designing, furnishing, installing, maintaining, and removing mechanical excavation support systems, and for the protection and restoration of adjacent structures, including repair of any settlement-related damage.

1.2 REFERENCES

- A. Section 01550 – Traffic Control
- B. Section 02240 - Dewatering.
- B. Section 02315 - Excavation, Fill and Subgrade Preparation.
- C. Section 02324 - Trenching and Backfilling for Utilities.

1.3 APPLICABLE STANDARDS AND SPECIFICATIONS

- A. Regulatory requirements which govern the work of this Section include, but may not be limited to, the following governing codes:
 - 1. California Code of Regulations, Title 8, Chapter 4, Subchapter 4 — Construction Safety Orders, and Subchapter 19 — Trench Construction Safety Orders.
 - 2. California Code of Regulations, Title 24, Part 2, California Building Code, Chapter 33 and Appendix Chapter 33, and Structural Chapters 18 and 18A.
 - 3. Excavations, regardless of depth, shall comply fully with the requirements of Sections 3301.2, 3301.2a, and 3301.3 of the California Building Code.

1.4 SUBMITTALS

- A. The Contractor shall submit an Excavation Protection Plan, sealed and signed by a professional civil engineer currently registered with the State of California. The Excavation Protection Plan shall provide a detailed plan for supporting and/or sloping excavation sidewalls during the work to prevent damage to existing buildings and utilities, support traffic on adjacent roadways, and to protect personnel that enter the excavation during the work. All drawings, calculations, and test reports utilized to develop the Excavation Protection Plan shall be included with the submittal.
- B. The Excavation Protection Plan shall be consistent with all applicable regulations including the Cal/OSHA Construction Safety Orders.
- C. The Excavation and Protection Plan shall consider the effects of excavating soil below the water table and dewatering.
- D. In designing excavation protection, CONTRACTOR shall assume that excavations will extend 2 feet below the depths shown on the Drawings.

- E. The Excavation and Protection Plan shall include the proposed method for penetration of utilities into the excavation.
- F. Design excavation support systems to support earth pressures, utility loads, equipment, applicable traffic and construction loads, and other surcharge loads in a manner which will allow the safe and expeditious completion of the work without movement or settlement of the ground and in a manner which will prevent settlement of and damage to, or movement of, adjacent buildings, structures, utilities, or other facilities during the various stages of construction. Include evaluation of the effects of dewatering and flooding of excavation.

PART 2 – PRODUCTS

2.1 EQUIPMENT AND FACILITIES

- A. The Contractor shall furnish all tools, equipment, devices, appurtenances, facilities, and services for the construction and removal of excavation support systems as indicated in the Excavation Protection Plan.

2.2 MATERIALS

- A. General: Materials for excavation support systems may be new or used, provided they are sound and free from strength-impairing defects.

PART 3 – EXECUTION

3.1 INSTALLATION REQUIREMENTS

- A. Install all excavation support systems required to ensure the safety and preservation of workers and to protect existing improvements. Excavation support systems shall be consistent with the Excavation Protection Plan.

3.2 INSPECTION OF EXCAVATION SLOPING OR MECHANICAL SUPPORT SYSTEMS

- A. If the Engineer or the licensed engineer whose name and stamp appear on the Excavation Protection Plan determines that excavation sloping constructed by the Contractor does not comply with the Excavation Protection Plan, the Contractor shall improve the excavation sloping at no extra cost to the OWNER.
- B. Prior to excavating soil within 50 feet of a mechanical support system, the licensed engineer whose name and stamp appears on the Excavation Shoring and Support Plan shall confirm in writing that the mechanical support system has been installed in accordance with the Excavation Protection Plan.
- C. If the Engineer or the licensed engineer whose name and stamp appear on the Excavation Protection Plan determines that an existing support system installed by the Contractor does not comply with the Excavation Protection Plan, the Contractor shall remediate or reinstall the support system at no extra cost to the Owner prior to excavating soil within 50 feet of the mechanical shoring systems.

3.3 REMOVAL OF EXCAVATION SUPPORT SYSTEMS

- A. If removal is required wholly or in part, Contractor shall perform such removal in a manner that will not disturb or damage adjacent buildings, structures, construction, or utilities. Contractor shall fill voids immediately with lean concrete or with approved backfill compacted to the relative compaction for the location as specified in Section 02315 – Excavation, Fill and Subgrade Preparation.

3.4 RESTORATION

- A. CONTRACTOR shall restore, at its own expense, existing structures damaged by its excavation activities to conditions equivalent to those prior to the start of work. This shall include repairing all settlement-related damage.

3.5 MEASUREMENT AND PAYMENT

- A. Full compensation for installation, maintenance, and removal of mechanical shoring or bracing to support excavation of impacted soil to the limits shown on the Drawings shall be made as lump sum price Bid Item No. 8.
- B. After excavating to the limits shown on the Drawings, the Engineer may require additional excavation. If this excavation occurs in areas requiring shoring, based on the CONTRACTOR's approved Excavation Protection Plan, this additional shoring will be paid at the unit price per square foot of exposed face of shoring supplied and installed under Bid Item 8a. In areas of additional excavation where shoring is not required, based on CONTRACTOR's approved Excavation Plan, excavation protection measures such as sloping or benching are deemed to be included in the CONTRACTOR's unit price for excavation under Bid Item 6.

END OF SECTION

SECTION 02351 – BACKFILLING AND GRADING

PART 1 – GENERAL

1.1 SCOPE

- A. This Section covers the requirements for the selection, testing, and placement of fill materials in excavations performed as a part of the Work. This Section also covers selection, testing, and placement of fill materials to accommodate the final elevations shown on the Drawings.
- B. CONTRACTOR shall supply all materials, equipment, and services required for grading, excavating, loading, hauling, backfilling, and compacting operations.
- C. All excavations and test trenches performed as a part of the Work shall be backfilled by CONTRACTOR.
- D. The source of backfill material shall be brought to the Site from off-site sources as needed, to meet the final elevations shown on the Drawings.
- E. The work under this Section shall include all work by CONTRACTOR required to load, haul, place, compact and grade backfill material required from on-site or from off-site sources, as approved by ENGINEER.
- F. Excavating, filling, backfilling, compacting and grading by the CONTRACTOR during construction shall be performed in a manner and sequence that will minimize multiple handling of soil and fill material.
- G. CONTRACTOR shall maintain all work areas free from excess dust as detailed in Section 01501- Dust Control and avoid causing a hazard or nuisance to others. Dust control shall be performed as the work proceeds and wherever a dust nuisance or hazard occurs.

1.2 RELATED SECTIONS

- A. Section 01501 – Dust Control
- B. Section 01502 – Storm Water Pollution Controls
- C. Section 02113 – Excavation of Contaminated Material

1.3 SUBMITTALS

- A. CONTRACTOR shall supply to the ENGINEER two cubic feet of material representative of each import backfill material for geotechnical laboratory analysis at least two weeks prior to use at the site.
- B. CONTRACTOR shall designate a single source for each import backfill material and provide a recent material analysis for each specified material demonstrating conformance with the Specifications. Provide access for ENGINEER to collect samples for chemical analysis for the analytes listed in Part 1.4(D) at least 3 weeks prior to use at the site. Anticipate 10 working days between ENGINEER's sampling and receiving testing results. CONTRACTOR shall not deliver any material to the Site until it has been favorably reviewed by OWNER.

1.4 QUALITY ASSURANCE

- A. CONTRACTOR shall ensure that the material and workmanship provided are in accordance with the specified requirements.
- B. ENGINEER will inspect placement and compaction of fill.
- C. As directed by ENGINEER, CONTRACTOR shall excavate holes for in-place soil sampling and/or density testing of fill by ENGINEER. CONTRACTOR shall be responsible for all costs for additional inspection and testing resulting from non-compliance with compaction requirements. ENGINEER may perform compaction testing on any lift of backfill material at any time at its own discretion.
- D. Testing Methods:
 - 1. Geotechnical Methods:

Maximum dry density and optimum moisture content of earthen materials shall be determined according to ASTM D1557. In situ density and moisture content shall be determined with a nuclear density meter according to ASTM D2922.

- 2. Environmental Analytical Methods for Imported Backfill:
 - RCRA Metals, EPA Method 6010 and 7471A
 - Pesticides/Herbicides, EPA Method 8081A, 8141A, 8151A
 - Semi-volatiles, EPA Method 8270C
 - Volatile Organic Compounds, EPA Method 8260B
 - TPHg, TPHd, and TPHmo, EPA Method 8015modified/EPA Method 3630A

PART 2 – PRODUCTS

2.1 BACKFILL MATERIALS

- A. General Fill Material: Non-expansive soil with a plasticity index no greater than 15 percent, not greater than 20 percent of particles by weight passing the number 200 sieve, and free from organic contents greater than 3 percent and of a suitable gradation to provide a firm unyielding surface when appropriately compacted. The material shall contain no particles greater than 1-inch diameter. No recycled material shall be utilized as General Fill Material.
- B. Granular Fill Material: Imported soils shall be utilized to backfill excavations below the water table and less than 2-feet above the water table. Off-site material utilized as Granular Fill Material shall have the following grain size distribution:

<u>Sieve Size</u>	<u>Percentage Passing Sieve</u>
No. 40	<50
No. 200	<5

The material shall contain no particles greater than 1-inch diameter.

- C. Top Soil shall consist of fertile, friable soil of loamy character, with an organic content greater than 5 percent. Top Soil shall be reasonably free from subsoil, heavy or stiff clay, particles greater than one inch in size, coarse sand, noxious seeds, roots, sticks, brush, refuse, litter, and other deleterious substances. Imported Top Soil shall be capable of sustaining healthy plant life.
- D. Geotextile for Soil Stabilization: Geotextile shall consist of a non-woven fabric composed of a strong, rot-proof polymeric yarn or fiber orientated into a stable network that retains its relative structure during handling, placement, and long term service. The Geotextile shall have complete resistance to deterioration from ambient temperatures, acid, and alkaline conditions, and shall be indestructible to microorganisms and insects. The material shall be resistant to short-term (until placement) deterioration by ultraviolet light or protected until placement as recommended by the manufacturer such that no deterioration occurs. The geotextile shall conform to the following minimum average roll values:

PROPERTY	SPECIFICATION	TEST METHOD
Grab Tensile Strength	300 lb (min)	ASTM D 4632
Grab Tensile Elongation	10-15%	ASTM D 4632
Wide Width Strength	175 lb (min)	ASTM D 4595
Wide Width Elongation	10-15%	ASTM D 4595
Puncture Strength	120 lb (min)	ASTM D 4833
Mullen Burst Strength	600 lb (min)	ASTM D 3786
Trapezoid Tear Strength	115 lb (min)	ASTM D 4533
Flow Rate	160 gal/min/sf	ASTM D 4491

- D. Aggregate Base: Aggregate base shall conform to Section 26-1.02, Class 2 Aggregate Base, ¾-inch maximum of the State Standard specification.
- E. CDF shall have a compressive strength of 50 psi (minimum) to 150 psi (maximum) and a slump of between 4 and 6-inches. CDF shall have a consistency that will result in a flowable product at the time of placement which does not require manual means to move it into place. CDF ingredients, including, water, Portland Cement, fine aggregate, and any admixtures shall be in full compliance with applicable ASTM standards. Maximum aggregate size shall be 3/8”.

PART 3 – EXECUTION

3.1 PROTECTION OF EXISTING FACILITIES

- A. CONTRACTOR shall be responsible for protection of existing structures and utilities shown on the Drawings to be protected.

3.2 PLACEMENT AND COMPACTION

- A. CONTRACTOR shall place material in 4 to 8-inch lifts to meet final elevations within a tolerance of plus or minus 0.1 foot. Final elevations shall be within 0.05 foot of the elevations determined during the pre-construction survey conducted in accordance with Section 01510 – Mobilization and Demobilization.

- B. All fill shall be compacted at a moisture content no more than 3 percent above optimum or 1 percent below optimum and shall meet the following minimum percentages of maximum density as determined by ASTM D1557 (Modified Procter Test):

Aggregate Base	98%
Less than 2-feet below pavement subgrade	95%
More than 2-feet below pavement subgrades	90%
Below landscaped areas	90%
Top Soil	85%

- C. As shown on the Drawings, Granular Fill Material shall not be placed in unpaved areas.
- D. If water is observed in excavations prior to backfill, CONTRACTOR shall remove the water in accordance with Section 02116 – Contact Water and place and compact Granular Fill Material a minimum of two feet above the elevation of residual water in the excavation.
- E. CONTRACTOR shall place a layer of Geotextile fabric between Granular Fill Material and General Fill material. CONTRACTOR shall overlap adjacent panels of Geotextile a minimum of 18-inches.
- F. No compacting shall be done by CONTRACTOR when the material is more than 3 percent greater than the optimum moisture content either from rain, groundwater, or excess application of water. At such times, work at the area where moisture conditions are unsatisfactory shall be suspended by CONTRACTOR until the previously placed and new materials have dried sufficiently to permit proper compaction. In order to expedite backfilling of critical areas to prevent washouts by storm water or other inconvenience, CONTRACTOR may scarify wet soils to speed the air-drying process.
- G. No compacting shall be done by CONTRACTOR when the material is more than 1 percent less than the optimum. At such times, CONTRACTOR shall apply water to previously placed and new material until the material is moistened sufficiently to permit proper compaction.
- H. CDF shall be utilized as backfill material below underground utilities as shown on the Drawings as follows:
1. CDF shall be placed using a concrete pump and tremie pipe such that CDF does not fall more than 24-inches from outlet of the tremie pipe to the top of the prepared surface.
 2. If the excavation to be filled contains standing water, the tremie pipe shall be lowered to the bottom of the excavation to be filled and CDF pumped through the pipe. As filling continues, the bottom of the tremie pipe shall not be raised above the level of the top of the CDF until the specified final grade is achieved.

3.3 TESTING

- A. CONTRACTOR shall perform soil testing, as required, to ensure proper execution of the Work and to verify material quality and to determine compaction characteristics, moisture content, and density of fill and backfill in place. These tests performed by CONTRACTOR will be used to verify that the fill and backfill conforms to the requirements of this Section. ENGINEER may conduct confirmation testing.

PART 4 – PAYMENT

- A. Payment for labor, equipment, and supplies to import, place, and compact Granular Fill Material from an off-site source shall be made at the contract unit price per ton of Granular Fill Material imported under Bid Item No. 10.
- B. Payment for labor, equipment, and supplies to furnish and install geotextile fabric as described in Paragraph 3.2(D) of this Section shall be made at the contract unit price per square foot of area covered under Bid Item No. 11.
- C. Payment for labor, equipment, and supplies to import, place, and compact General Fill Material from an off-site source shall be made at the contract unit price per ton of General Fill Material imported under Alternative Bid Item No. 12.
- D. Payment for labor, equipment, and supplies to import, place, and compact Aggregate Base from an off-site source shall be made at the contract unit price per ton of Aggregate Base imported under Bid Item No. 13.
- E. Payment for labor, equipment, and supplies to import, place, and compact top soil from an off-site source shall be made at the contract unit price per ton of top soil imported under Bid Item No. 14.
- F. There shall be no separate payment for CONTRACTOR's implementation and compliance with the other requirements of this Section.

END OF SECTION

SECTION 02740 – ASPHALT CONCRETE PAVEMENT

PART – GENERAL

1.1 SUMMARY

- A. The work under this section consists of furnishing and installing materials, labor supervision, tools, equipment, and services to provide and install asphalt tack coat and asphalt concrete pavement where shown on the Drawings and as specified herein.

1.2 REFERENCE

- A. Section 02351 – Backfilling and Grading.

1.3 APPLICABLE STANDARDS AND SPECIFICATIONS

- A. State Specifications - The Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, latest edition (available at http://www.dot.ca.gov/hq/esc/oe/specifications/std_specs/2002_StdSpecs/2002StdSpecs.pdf).
- B. Standard Test Methods - The Standard Test Methods of the State of California, Business and Transportation Agency, Department of Transportation, latest edition.
- C. American Society for Testing and Materials (ASTM).

1.4 SUBMITTALS

- A. The Contractor shall submit in writing to the Engineer for approval the proposed job mix formula for asphalt concrete, Type A, at least 3 weeks prior to its intended use.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Asphalt Concrete:
 - 1. Paint Binder: SS1 or SS1h asphaltic emulsion conforming to Section 94, "Asphaltic Emulsions," of the State Standard Specifications.
 - 2. Asphalt Concrete: Type A asphalt concrete conforming to Section 39 of the State Specifications.
 - a. Bituminous Binders: AR-8000 paving asphalt conforming to Section 92 of the State Specifications. If recycled pavement (RAP) is approved by OWNER for use, binder shall be AR-8000.
 - b. Aggregate: Type A, 1/2-inch maximum size, medium grading requirement of Section 39 of the State Specifications.
 - 3. Job Mix Formula: Job mix formula shall conform to the provisions in Section 39-3, Storing, Proportioning and Mixing Materials," of the State Standard Specifications and these Special Provisions.

- a. The job mix formula submitted shall indicate definite percentages for each sieve fraction of aggregate, source of aggregate, percentage of asphalt binder, and temperature of completed mixture when discharged from the mixer. All test data used to develop the job mix formula shall also be submitted.
 - b. The approved job mix formula will be in effect until modified in writing by the OWNER. Should CONTRACTOR change its source of supply, CONTRACTOR shall furnish new proportions of job mix formula, as determined by OWNER to be necessary, at least 2 weeks before their intended use. A change which affects any portion of the total aggregate in the mix will be considered a change in the source and will require a new mix design.
4. The fifth, sixth, seventh, and eight paragraphs of Section 39-3.02, "Proportioning," of the state Standard Specifications will not apply to this contract.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Asphalt Concrete Pavement Subgrade Preparation:
- 1. Prior to placing asphalt concrete pavement on aggregate base and applying tack coat, prepare aggregate base in conformance with Section 39-4.01, "SUBGRADE", of the State Standard Specifications.

3.2 PAINT BINDER

- A. Paint binder application shall conform to the provisions in Section 39-4.02, "Prime Coat and Paint Binder (Tack Coat)," of the State Standard Specifications and these Special Provisions.
- B. Tack coat shall be applied at a rate of 0.02 to 0.10 gallons per square yard at vaults, manholes, catch basins, pavements, curbs, gutters and construction joints and at a rate of 0.22 to 0.28 gallons per square yard on existing concrete and asphalt concrete pavements against which asphalt concrete pavement overlay will be placed.
- C. The area to which paint binder has been applied shall be closed to public traffic. Care shall be taken to avoid tracking binder material onto existing pavement surfaces beyond the limits of work.

3.3 ASPHALT CONCRETE PAVEMENT

- A. Spreading and compacting of asphalt concrete shall conform to the provisions in Sections 39-5, "Spreading and Compacting Equipment," and 39-6, "Spreading and Compacting," of the State Standard Specifications and these Special Provisions.
- B. Spreading and compaction of asphalt shall not begin without written approval by OWNER.
- C. Steps shall be taken to ensure that a clean, dirt-free surface exists between lifts. At locations where the dirt cannot be washed or broomed off the surface, a tack coat shall be broomed into the remaining particles. ENGINEER shall approve the condition of the surface prior to paving. If the surface between lifts becomes dirty, it shall be given a tack coat even if both lifts are placed the same day.
- D. Vertical surface joints shall be dense, uniform, and well bonded. In the formation of joints, provisions shall be made for proper bonding with the adjacent lift for the entire depth of the lift. A tack coat shall be

applied to such joints and the fresh mixture raked against the joint and thoroughly tamped and rolled at required temperatures.

1. Folded or rounded edges are not acceptable as vertical surfaces for joint.
 2. Longitudinal and transverse joints shall be trimmed off vertically to full depth if the exposed joint surface is not dense and uniform and, in the opinion of OWNER, is in such condition that the quality of the completed joint will be affected. Joints older than 3 hours or not meeting density and uniformity requirements shall be cut back.
- E. The finished asphalt pavement surfaces shall conform to the smoothness tolerance stipulated in Section 39-6.03, "Compacting" of the State Standard Specifications, except that the surface shall not have depressions greater than 1/16-inch when tested with a 12-foot straightedge load transverse to, or in the direction of paving. No portion of the pavement shall retain ponding water.
1. Spreading equipment shall be asphalt pavers conforming to the State Standard Specifications. Pneumatic-tired motor graders or similar equipment shall only be used to spread asphalt concrete in areas inaccessible to pavers.
 2. Edges of leveling coverages shall be feathered. The larger aggregates shall be raked and removed, leaving a dense, well-graded edge.
- F. In addition to the compaction requirements specified in Section 39, "Asphalt Concrete" of the State Standard Specifications, each lift of asphalt concrete pavement shall be tested by CONTRACTOR for density requirements as follows: Area to be paved shall be divided daily into sections, each with a maximum area of 4,000 square yards. The mean density of each section shall be at least 98% of the laboratory (target) density as determined by California Tests 304 and 308. Representative samples of material will be taken by ENGINEER during construction of each section for use in determining the target density for that section.
1. The mean density of each section shall be determined by averaging the result of 10 randomly selected in-place density tests. In-place density tests shall be measured by means of a nuclear device in accordance with ASTM D 2950. The results of each test will be available to CONTRACTOR.
 2. If an individual test result should fall below 95 percent of the target value, CONTRACTOR shall further compact that area represented by the test. After further compaction, a new density test shall be taken at the original location and one other location within the recompacted area. The average of the 2 tests shall be included in the mean density for the section. The original test shall not be included in the mean.

3.4 STRIPING

CONTRACTOR shall provide striping for temporary Mason Street relocation segments in accordance with the State Specifications. CONTRACTOR shall replace in kind all striping on roadways and parking areas that is disturbed by CONTRACTOR's work.

3.5 RESTORATION OF CONCRETE RAMPS, CURBS, GUTTERS, AND CURB RAMPS

Before starting work, CONTRACTOR shall document the location of all existing concrete curbs, gutters, and curb ramps in the vicinity of excavation areas. Following excavation and backfilling activities, CONTRACTOR shall restore all concrete curbs, gutters, and curb ramps at their original location in accordance with Section 73 of the State Specifications.

3.6 SAW CUTTING

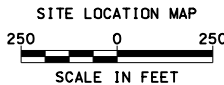
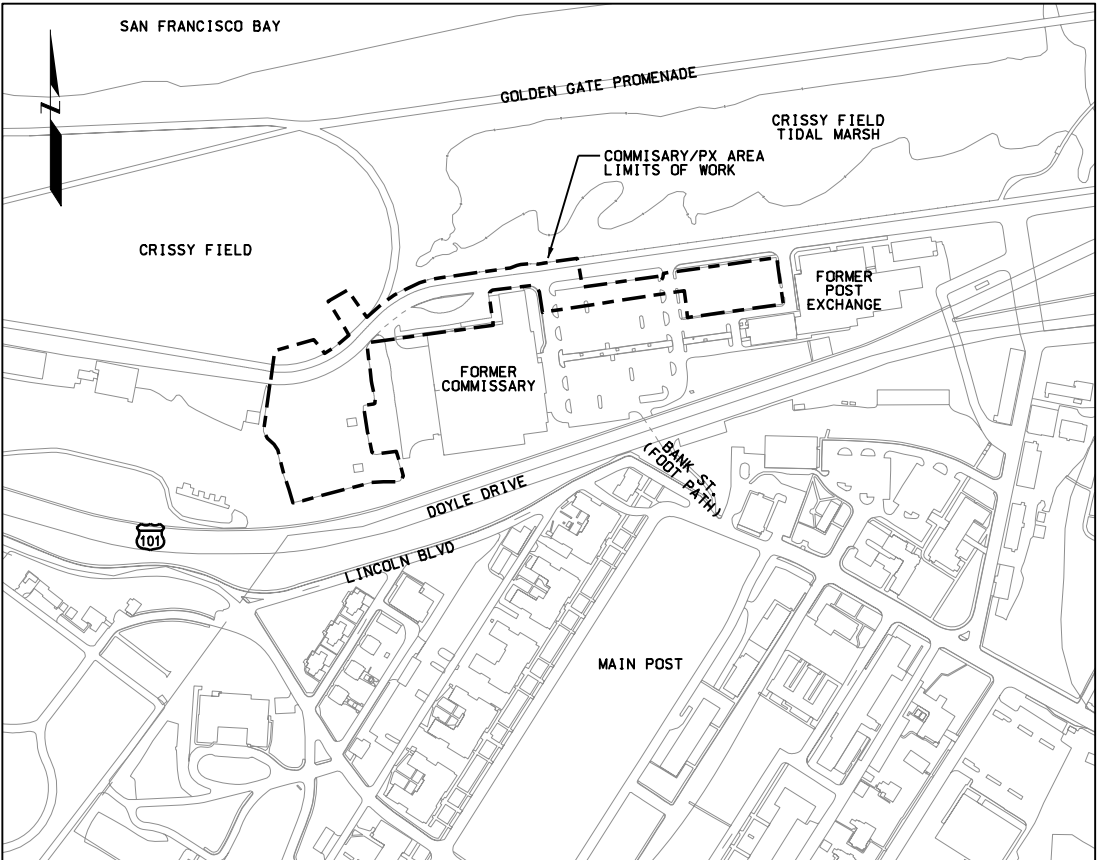
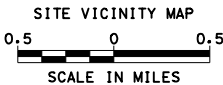
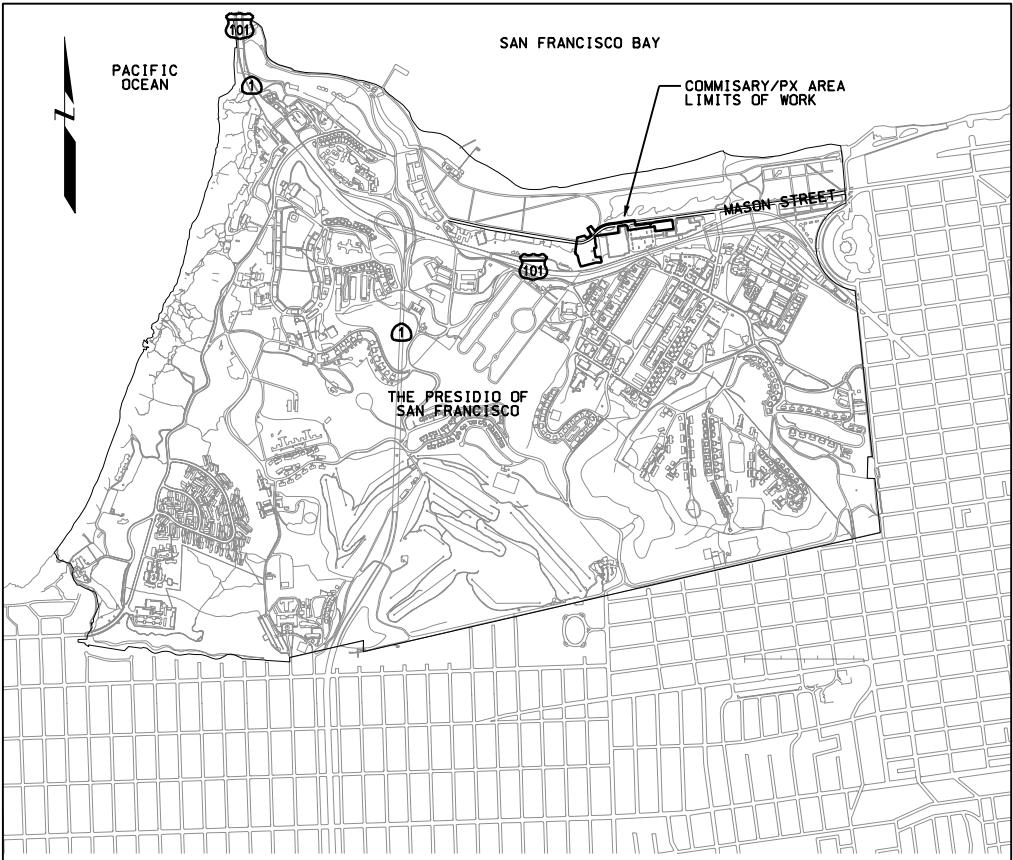
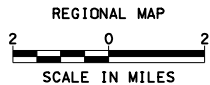
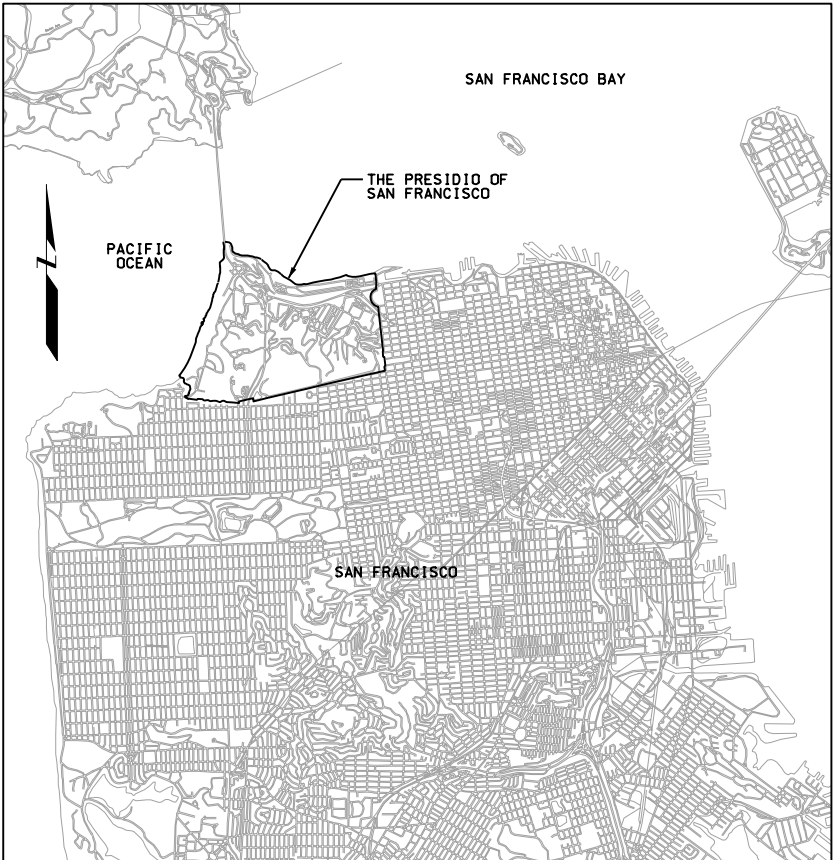
Before placing new asphalt concrete pavement, CONTRACTOR shall saw cut existing asphalt concrete pavement to form a clean surface against which to place new asphalt concrete. Saw cutting shall be to the full depth of existing asphalt concrete. Apply tack coat in accordance with 3.2 B to all saw-cut surfaces against which new pavement is to be placed.

PART 4 – PAYMENT

- A. Full compensation for restoration of concrete curbs, gutters and curb ramps as described in Paragraph 3.5 of this section shall be made at the contract unit price per foot under Bid Item No. 16.
- B. Full compensation for all other work described in this section shall be made at the contract unit price per ton under Bid Item No. 15.

END OF SECTION

PHASE I CORRECTIVE ACTION PLAN
COMMISSARY/PX AREA
THE PRESIDIO OF SAN FRANCISCO
SAN FRANCISCO, CALIFORNIA



GENERAL NOTES

- CONTRACTOR SHALL VERIFY ALL FIELD DIMENSIONS AND ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE, PROTECT, AND MAINTAIN EXISTING UTILITIES, WHETHER OR NOT SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA; 1-800-642-2444) A MINIMUM OF 48 HOURS BEFORE ANY WORK.
- THE LOCATIONS OF UTILITIES SHOWN ON THE DRAWINGS HAVE NOT BEEN VERIFIED IN THE FIELD. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF UTILITIES BEFORE ANY WORK AND NOTIFY ENGINEER OF ANY CONFLICTS WITH THE WORK SHOWN ON THE DRAWINGS.
- THE SPECIFICATIONS FOR THIS PROJECT, WHICH ARE A SEPARATE DOCUMENT, ARE AN INTEGRAL PART OF THE CONTRACT. SEE SPECIFICATIONS FOR INFORMATION NOT PROVIDED IN THESE GENERAL NOTES OR SHOWN ON THE DRAWINGS.
- SURVEY OF EXISTING FEATURES WAS SUPPLIED BY THE PRESIDIO TRUST OF SAN FRANCISCO. THE DATUM FOR ELEVATIONS IS THE PRESIDIO LOWER LOW WATER DATUM AND THE NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD 88). THE HORIZONTAL DATUM IS NAD 27, CALIFORNIA STATE PLANE COORDINATES, ZONE 3, FEET.
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE AT ALL TIMES INCLUDING SAFETY OF PERSONS AND PROPERTY. THE ENGINEER'S JOB SITE REVIEW DOES NOT INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.

- CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXCAVATION AREAS AND ESPECIALLY OPEN EXCAVATIONS AND STOCKPILED SOIL. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL WORK AREAS AND OPEN EXCAVATIONS FROM ENTRY BY THE PUBLIC.
- THE SITE IS KNOWN TO HAVE MANY CULTURAL RESOURCE DEPOSITS. PRIOR TO COMMENCING EARTHWORK ACTIVITIES, CONTRACTOR SHALL MEET WITH THE ENGINEER AND THE CULTURAL MONITORS FROM THE PRESIDIO TO ESTABLISH A PROTOCOL FOR TEMPORARILY HALTING EARTHWORK IN AREAS WHERE CULTURAL RESOURCES ARE FOUND.
- CONTRACTOR SHALL KEEP SITE FREE FROM ACCUMULATION OF SURPLUS MATERIALS AND RUBBISH RESULTING FROM THE WORK.
- ADJACENT TREES AND OTHER VEGETATION OUTSIDE THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED BY CONTRACTOR. OPERATION OF ALL EQUIPMENT, STORAGE OF MATERIALS, DISPOSITION OF GRADED MATERIAL AND CONSTRUCTION IN GENERAL SHALL BE CONDUCTED SO AS NOT TO INJURE TREE TRUNKS, BRANCHES, OR ROOTS.
- CONTRACTOR SHALL PROTECT ALL SITE FEATURES THAT ARE NOT DESIGNATED FOR DEMOLITION. CONTRACTOR SHALL REPLACE IN KIND AND AT ITS OWN EXPENSES ANY SITE FEATURES SHOWN ON THE DRAWINGS AS TO BE PROTECTED THAT ARE DAMAGED BY CONTRACTOR DURING THE WORK.
- BEFORE STARTING WORK, CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION TOPOGRAPHIC SURVEY COVERING THE AREAS WITHIN 100 FEET OF THE INITIAL EXCAVATION EXTENTS SHOWN ON THE DRAWINGS. THE SURVEY SHALL IDENTIFY SITE FEATURES INCLUDING, BUT NOT LIMITED TO: ROADS, PATHS, CURBS, GUTTERS, DRAINAGE FEATURES, HYDRANTS, TREES, AND FENCES. PRIOR TO SURVEYING WITHIN THE BOUNDARIES OF THE CRISSY FIELD MARSH, CONTRACTOR'S SURVEYOR SHALL MEET WITH NATIVE PLANT SPECIALISTS FROM THE PRESIDIO (PLANT SPECIALISTS). CONTRACTOR'S SURVEYOR SHALL PERFORM THEIR WORK CONSISTENT

- WITH PROCEDURES DEVELOPED BY THE PLANT SPECIALISTS TO PREVENT DAMAGE TO SENSITIVE PLANT SPECIES. UPON COMPLETION OF EXCAVATION, CONTRACTOR'S SURVEYOR SHALL SURVEY THE HORIZONTAL LOCATION OF THE FINAL EXCAVATION LIMITS AND OBTAIN ELEVATIONS WITHIN THE EXCAVATION ON A 25 BY 25 FOOT GRID. UPON COMPLETION OF BACKFILLING AND SITE RESTORATION, CONTRACTOR SHALL RESURVEY THE SAME AREA AS THE PRE-CONSTRUCTION TOPOGRAPHIC SURVEY TO CONFIRM FINAL GRADES. SEE SPECIFICATIONS FOR ADDITIONAL SURVEY REQUIREMENTS.
- BEFORE STARTING WORK, CONTRACTOR SHALL DOCUMENT THE LOCATION AND CONDITION OF ALL EXISTING CONCRETE CURBS, GUTTERS, AND CURB RAMPS IN THE VICINITY OF EXCAVATION AREAS. FOLLOWING EXCAVATION AND BACK-FILLING ACTIVITIES, CONTRACTOR SHALL RESTORE ALL CONCRETE CURBS, GUTTERS, AND CURB RAMPS AT THEIR ORIGINAL LOCATION IN ACCORDANCE WITH CALTRANS SPECIFICATIONS AND STANDARD DETAILS.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL WASTES GENERATED AT THE SITE IN ASSOCIATION WITH THE WORK AND ALL MATERIALS REMAINING ON-SITE AT THE END OF THE WORK.
 - THE OWNER WILL BE RESPONSIBLE FOR SIGNING ALL HAZARDOUS WASTE MANIFESTS (HAZARDOUS) AND BILLS OF LADING (NON-HAZARDOUS), AND WILL BE IDENTIFIED AS GENERATOR ON ALL WASTE-RELATED DOCUMENTS.
 - IF DOYLE DRIVE (US 101) IS CLOSED DUE TO EARTHQUAKE OR OTHER OCCURRENCES, TRAFFIC IS DIVERTED ONTO MASON STREET. IN THIS EVENT, ENGINEER MAY DIRECT CONTRACTOR TO TEMPORARILY BACKFILL EXCAVATIONS IN MASON STREET AND STOP WORK PENDING ENGINEER'S INSTRUCTIONS.

DRAWING LIST

- G-1 TITLE SHEET AND SITE LOCATION MAP
G-2 AUTHORIZED HAUL ROUTES
G-3 WORK AREA
C-1 WEST EXCAVATION AREA
C-2 EAST EXCAVATION AREA
C-3 SECTIONS AND DETAILS
T-1 WEST EXCAVATION AREA - MASON STREET REALIGNMENT
T-2 EAST EXCAVATION AREA - MASON STREET REALIGNMENT

REFERENCES:	NO.	REVISION	DATE	APRVD
PLANS				
DATUM				

DRAWN: SLW
DESIGNED: ADC
CHECKED: MTB
REVIEWED: FSS



Presidio Trust
34 Graham Street
P.O. Box 29062
San Francisco, CA 94129-0062
415/561-5300
fax 415/561-5315
April 2006

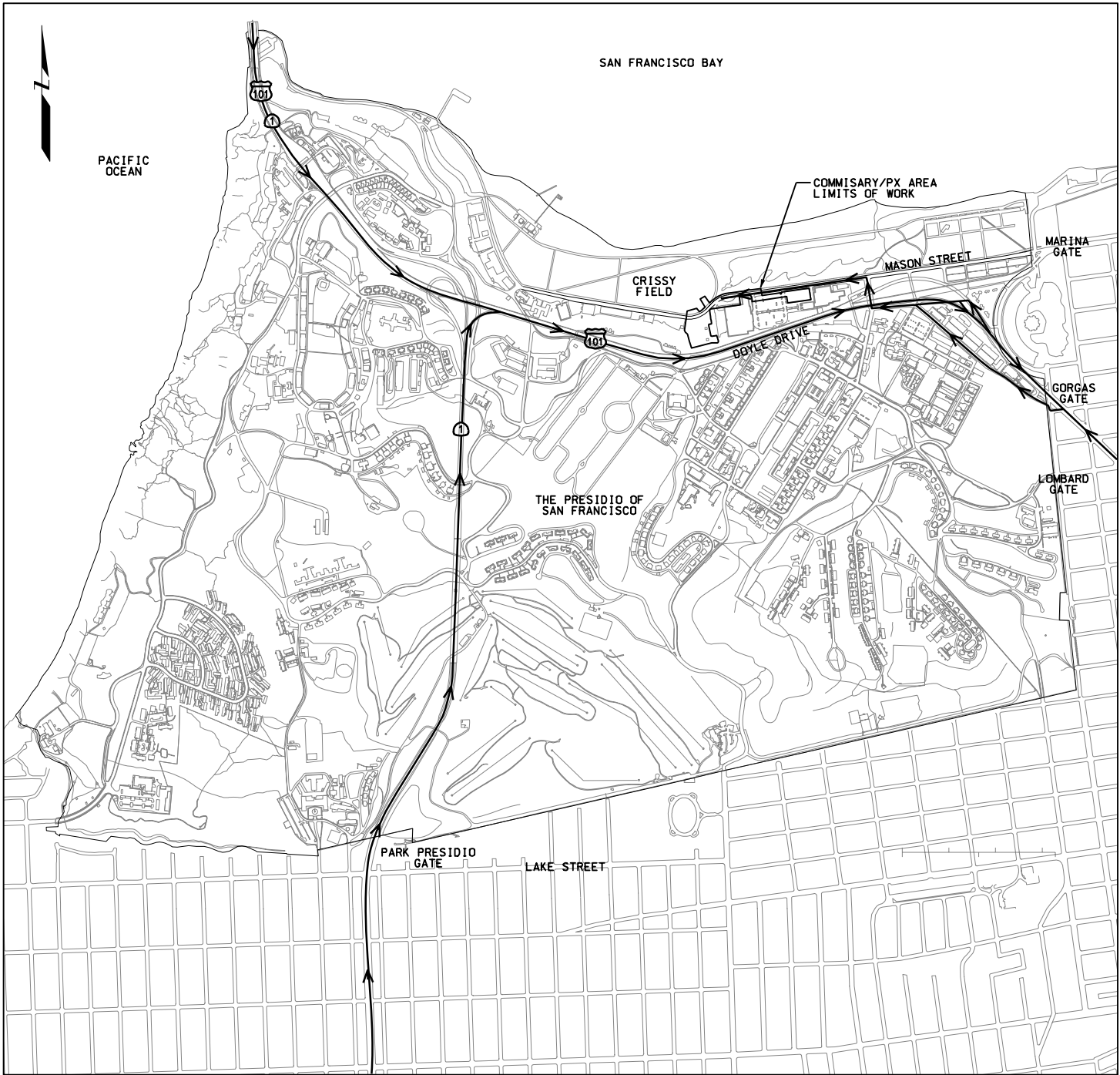


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2101 Webster Street, Suite 1200
Oakland, California
(510) 663-4100

TITLE SHEET AND SITE LOCATION MAP
PHASE I CORRECTIVE ACTION PLAN
COMMISSARY/PX AREA
THE PRESIDIO OF SAN FRANCISCO
SAN FRANCISCO, CALIFORNIA

DATE: 26-APR-2006 09:27	
SCALE: AS NOTED	
SHEET: 1 OF 8 SHEETS	
PROJ. No. 9886.000	G-1

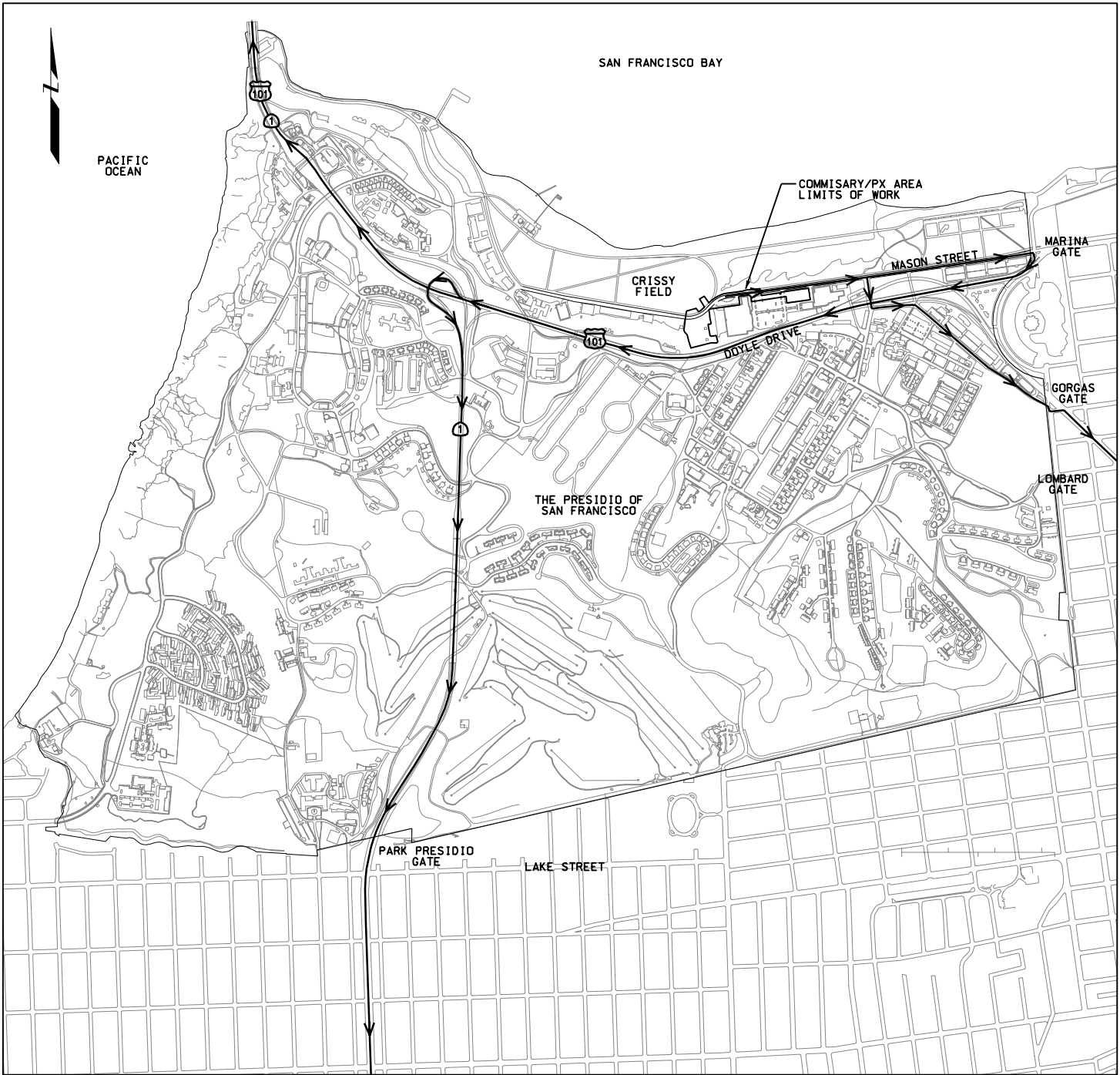
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AUTHORIZED HAUL ROUTES - INBOUND
0.3 0 0.3
SCALE IN MILES

NOTES:

1. FOR GENERAL NOTES SEE DRAWING G-1.
2. CONTRACTOR SHALL UTILIZE ONLY TRUCK ROUTES AND STAGING AREAS SHOWN ON THE DRAWINGS. CONTRACTOR VEHICLES SHALL NOT TRAVEL ON OTHER PORTIONS OF THE PRESIDIO WITHOUT PRIOR AUTHORIZATION FROM OWNER.
3. CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO AVOID DEPOSITING DEBRIS AND MUD ON ROADS AND STREETS FROM VEHICLES AND EQUIPMENT OPERATING DURING THE WORK. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REMOVAL OF SUCH DEBRIS BY BROOMING AND WASHING ON A DAILY BASIS AND ADDITIONALLY, IMMEDIATELY UPON NOTICE BY ENGINEER OR GOVERNMENTAL AUTHORITIES.



AUTHORIZED HAUL ROUTES - OUTBOUND
0.3 0 0.3
SCALE IN MILES

LEGEND

←→ AUTHORIZED HAUL ROUTES INBOUND OR OUTBOUND

AUTHORIZED ENTRY AND EXIT ROUTES/GATES:

- VIA GOLDEN GATE BRIDGE TOLL PLAZA
- VIA DOYLE DRIVE AND HIGHWAY 101
- VIA 19TH AVENUE/STATE HIGHWAY 1
- GORGAS GATE TO BE USED ONLY FOR EXIT TO SOUTHBOUND HIGHWAY 101
- MARINA GATE TO BE USED ONLY FOR EXIT TO NORTHBOUND HIGHWAY 101
- USE RICHARDSON SLIP RAMP FOR ENTRY FROM NORTHBOUND 101
- NO ENTRY OR EXIT VIA LOMBARD, PRESIDIO, ARGUELLO, 15TH AVENUE, OR 25TH AVENUE

REFERENCES:	NO.	REVISION	DATE	APRVD
PLANS				
DATUM				

DRAWN: SLW
DESIGNED: ADC
CHECKED: MTB
REVIEWED: FSS



Presidio Trust

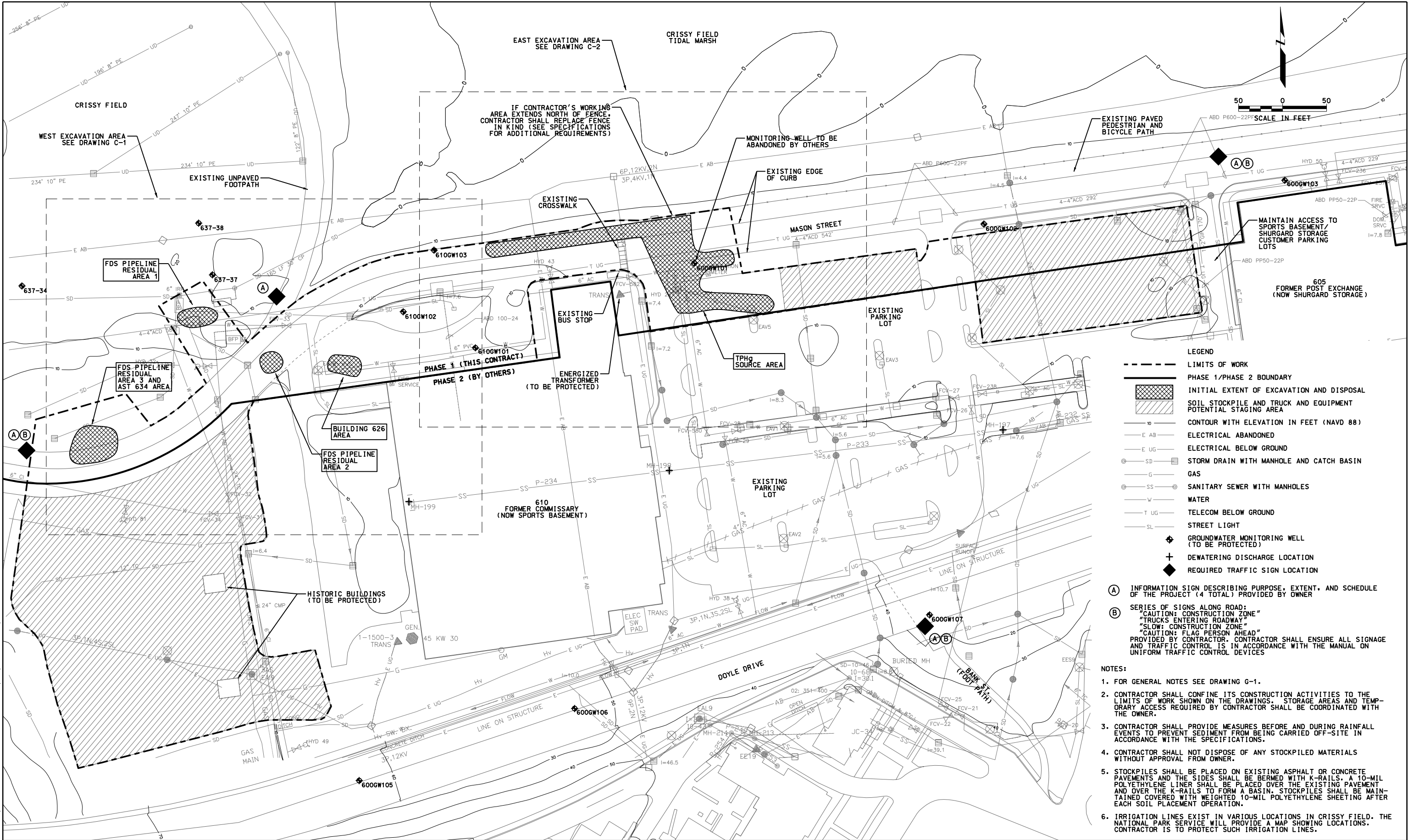
34 Graham Street
P.O. Box 29052
San Francisco, CA 94129-0052
415/561-5300
fax 415/561-5315
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Geomatrix Consultants
2101 Webster Street, Suite 1200
Oakland, California
(510) 663-4100

AUTHORIZED HAUL ROUTES
PHASE I CORRECTIVE ACTION PLAN
COMMISSARY/PX AREA
THE PRESIDIO OF SAN FRANCISCO
SAN FRANCISCO, CALIFORNIA

DATE: 26-APR-2006 09:27
SCALE: AS NOTED
SHEET: 2 OF 8 SHEETS
PROJ. No. 9886.000
G-2



- LEGEND**
- LIMITS OF WORK
 - PHASE 1/PHASE 2 BOUNDARY
 - [Hatched Box] INITIAL EXTENT OF EXCAVATION AND DISPOSAL
 - [Diagonal Lines Box] SOIL STOCKPILE AND TRUCK AND EQUIPMENT POTENTIAL STAGING AREA
 - 10 --- CONTOUR WITH ELEVATION IN FEET (NAVD 88)
 - E AB --- ELECTRICAL ABANDONED
 - E UG --- ELECTRICAL BELOW GROUND
 - SD --- STORM DRAIN WITH MANHOLE AND CATCH BASIN
 - G --- GAS
 - SS --- SANITARY SEWER WITH MANHOLES
 - W --- WATER
 - T UG --- TELECOM BELOW GROUND
 - SL --- STREET LIGHT
 - ◆ GROUNDWATER MONITORING WELL (TO BE PROTECTED)
 - ⊕ DEWATERING DISCHARGE LOCATION
 - ◆ REQUIRED TRAFFIC SIGN LOCATION
- (A) INFORMATION SIGN DESCRIBING PURPOSE, EXTENT, AND SCHEDULE OF THE PROJECT (4 TOTAL) PROVIDED BY OWNER
- (B) SERIES OF SIGNS ALONG ROAD:
"CAUTION: CONSTRUCTION ZONE"
"TRUCKS ENTERING ROADWAY"
"SLOW: CONSTRUCTION ZONE"
"CAUTION: FLAG PERSON AHEAD"
PROVIDED BY CONTRACTOR. CONTRACTOR SHALL ENSURE ALL SIGNAGE AND TRAFFIC CONTROL IS IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

- NOTES:**
- FOR GENERAL NOTES SEE DRAWING G-1.
 - CONTRACTOR SHALL CONFINE ITS CONSTRUCTION ACTIVITIES TO THE LIMITS OF WORK SHOWN ON THE DRAWINGS. STORAGE AREAS AND TEMPORARY ACCESS REQUIRED BY CONTRACTOR SHALL BE COORDINATED WITH THE OWNER.
 - CONTRACTOR SHALL PROVIDE MEASURES BEFORE AND DURING RAINFALL EVENTS TO PREVENT SEDIMENT FROM BEING CARRIED OFF-SITE IN ACCORDANCE WITH THE SPECIFICATIONS.
 - CONTRACTOR SHALL NOT DISPOSE OF ANY STOCKPILED MATERIALS WITHOUT APPROVAL FROM OWNER.
 - STOCKPILES SHALL BE PLACED ON EXISTING ASPHALT OR CONCRETE PAVEMENTS AND THE SIDES SHALL BE BERMED WITH K-RAILS. A 10-MIL POLYETHYLENE LINER SHALL BE PLACED OVER THE EXISTING PAVEMENT AND OVER THE K-RAILS TO FORM A BASIN. STOCKPILES SHALL BE MAINTAINED COVERED WITH WEIGHTED 10-MIL POLYETHYLENE SHEETING AFTER EACH SOIL PLACEMENT OPERATION.
 - IRRIGATION LINES EXIST IN VARIOUS LOCATIONS IN CRISSY FIELD. THE NATIONAL PARK SERVICE WILL PROVIDE A MAP SHOWING LOCATIONS. CONTRACTOR IS TO PROTECT SUCH IRRIGATION LINES.

REFERENCES: PLANS	NO.	REVISION	DATE	APRVD	DRAWN: SLW	 Presidio Trust 34 Graham Street P.O. Box 29062 San Francisco, CA 94129-0062 415/561-5300 fax 415/561-5315 April 2006	 Geomatrix Geomatrix Consultants 2101 Webster Street, Suite 1200 Oakland, California (510) 663-4100	WORK AREA PHASE I CORRECTIVE ACTION PLAN COMMISSARY/PX AREA THE PRESIDIO OF SAN FRANCISCO SAN FRANCISCO, CALIFORNIA	DATE: 26-APR-2006 09:28
DATUM					DESIGNED: ADC				SCALE: AS NOTED
					CHECKED: MTB				SHEET: 3 OF 8 SHEETS
					REVIEWED: FSS				PROJ. No. 9886.000
									G-3

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BACKFILL REQUIREMENTS
- WALKING PATH AND BIKE PATH PER $\frac{1}{C-3}$ WITH 2" AC
- MASON STREET (INCLUDING BIKE LANE) PER $\frac{1}{C-3}$ WITH 4" AC
- PARKING LOT AND OTHER PAVED AREAS PER $\frac{1}{C-3}$ WITH 2" AC
- LANDSCAPED AREAS PER $\frac{2}{C-3}$

LEGEND	
	PHASE 1/PHASE 2 BOUNDARY
	SURVEY CONTROL POINTS TO LOCATE INITIAL EXCAVATION AREA
	CONTOUR WITH ELEVATION IN FEET (NAVD 88)
	ELECTRICAL ABANDONED
	ELECTRICAL BELOW GROUND
	STORM DRAIN WITH MANHOLE AND CATCH BASIN
	GAS
	SANITARY SEWER WITH MANHOLES
	WATER
	TELECOM BELOW GROUND
	STREET LIGHT
	GROUNDWATER MONITORING WELL (TO BE PROTECTED)
	DEWATERING DISCHARGE LOCATION

IMPACTED SOIL AREA	INITIAL DEPTH OF EXCAVATION (FEET)
BUILDING 626 AREA	10
FDS PIPELINE RESEDUAL AREA 1	3
FDS PIPELINE RESEDUAL AREA 2	3
FDS PIPELINE RESEDUAL AREA 3 AND AST 634 AREA	3

CONTROL POINT	NORTHING	EASTING
626-1	1434056.80	480458.58
626-2	1434061.85	480477.81
626-3	1434100.16	480474.00
626-4	1434094.76	480449.36
RA1-1	1433684.56	480523.64
RA1-2	1433925.54	480536.77
RA1-3	1433941.04	480515.54
RA1-4	1433895.74	480502.01
RA2-1	1433976.29	480469.10
RA2-2	1433996.00	480486.62
RA2-3	1434013.62	480467.44
RA2-4	1433993.04	480449.54
RA3-1	1433776.88	480397.27
RA3-2	1433822.82	480393.26
RA3-3	1433819.09	480357.88
RA3-4	1433773.55	480350.77
RA3-5	1433762.43	480361.55

- NOTES:
- FOR GENERAL NOTES SEE DRAWING G-1.
 - FOR TRAFFIC CONTROL AND ACCOMMODATIONS FOR PEDESTRIANS AND BICYCLISTS REFER TO DRAWING T-1.
 - CONTRACTOR SHALL SURVEY AND STAKE CONTROL POINTS. ENGINEER WILL MARK INITIAL EXCAVATION AREA USING THESE CONTROL POINTS.
 - IN DESIGNING EXCAVATION PROTECTION, CONTRACTOR SHALL ASSUME EXCAVATIONS WILL EXTEND 2 FEET BELOW THE DEPTHS SHOWN ON THE DRAWINGS.
 - AFTER EXCAVATION TO THE LIMITS SHOWN ON THE DRAWINGS AND SAMPLING BY THE ENGINEER, THE AREA WILL BE INSPECTED BY ENGINEER TO DETERMINE IF THE EXCAVATION NEEDS TO BE INCREASED IN SIZE OR DEPTH. FURTHER REQUIRED EXCAVATION BY CONTRACTOR WILL ONLY BE PERFORMED AT THE DIRECTION OF ENGINEER.
 - CONTRACTOR SHALL ANTICIPATE A 72-HOUR TURN AROUND TIME FOR THE RESULTS OF SOIL SAMPLES COLLECTED FROM THE BASE AND SIDEWALLS OF THE EXCAVATION AREAS SHOWN ON THE DRAWINGS. BASED ON THE RESULTS OF THE SOIL SAMPLE ANALYSIS, ENGINEER MAY DIRECT CONTRACTOR TO PERFORM ADDITIONAL EXCAVATION OR TO BACKFILL AND RESTORE THE EXCAVATION AREA.
 - ENGINEER WILL PERFORM SAMPLING AND ANALYSIS TO CLASSIFY STOCKPILED SOIL FOR DISPOSAL. ENGINEER WILL COLLECT WASTE CLASSIFICATION SAMPLES WITHIN TWO DAYS OF COMPLETION OF EACH EXCAVATION AREA. CONTRACTOR SHALL ANTICIPATE A 7 WORKING DAY TURN AROUND TIME FOR THE RESULTS OF WASTE CLASSIFICATION SAMPLES. CONTRACTOR SHALL NOT DISPOSE OR MOVE STOCKPILED SOIL UNTIL AUTHORIZED BY ENGINEER.
 - CONTRACTOR SHALL COLLECT CONTACT WATERS PRESENT IN OPEN EXCAVATIONS AND FREE WATER THAT COLLECTS WITHIN SOIL STAGING AREAS IN ACCORDANCE WITH THE SPECIFICATIONS. ENGINEER WILL COLLECT AND ANALYZE WASTE CHARACTERIZATION SAMPLES. CONTRACTOR SHALL ANTICIPATE A ONE WEEK TURN AROUND TIME FOR THE RESULTS OF WATER SAMPLES. DURING THIS PERIOD, CONTRACTOR SHALL NOT DISCHARGE WATER TO THE SFPUC SANITARY SEWER, AND SHALL MAINTAIN ALL NECESSARY SITE CONTROLS.
 - ALL EXCAVATIONS PERFORMED AS A PART OF THE WORK SHALL BE BACKFILLED BY CONTRACTOR.
 - UNLESS OTHERWISE AUTHORIZED BY THE OWNER, ALL UTILITIES ARE TO REMAIN IN PLACE IN THEIR CURRENT ALIGNMENT AND CONTRACTOR SHALL PROTECT AND SUPPORT THEM IN PLACE DURING COMPLETION OF EXCAVATION AND BACKFILL ACTIVITIES. IT IS CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL FROM THE RESPECTIVE UTILITY COMPANIES FOR PROTECTION AND SUPPORT MEASURES.

REFERENCES:	NO.	REVISION	DATE	APRVD
PLANS				
DATUM				

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DESIGNED: **ADC**
CHECKED: **MTB**
REVIEWED: **FSS**



Presidio Trust
34 Graham Street
P.O. Box 29062
San Francisco, CA
94129-0062
415/561-5300
415/561-5315
April 2006



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Geomatrix Consultants
2101 Webster Street, Suite 1200
Oakland, California
(510) 663-4100

WEST EXCAVATION AREA
PHASE I CORRECTIVE ACTION PLAN
COMMISSARY/PX AREA
THE PRESIDIO OF SAN FRANCISCO
SAN FRANCISCO, CALIFORNIA

DATE: 26-APR-2006 09:34
SCALE: AS NOTED
SHEET: 4 OF 8 SHEETS
PROJ. No. 9886.000
C-1

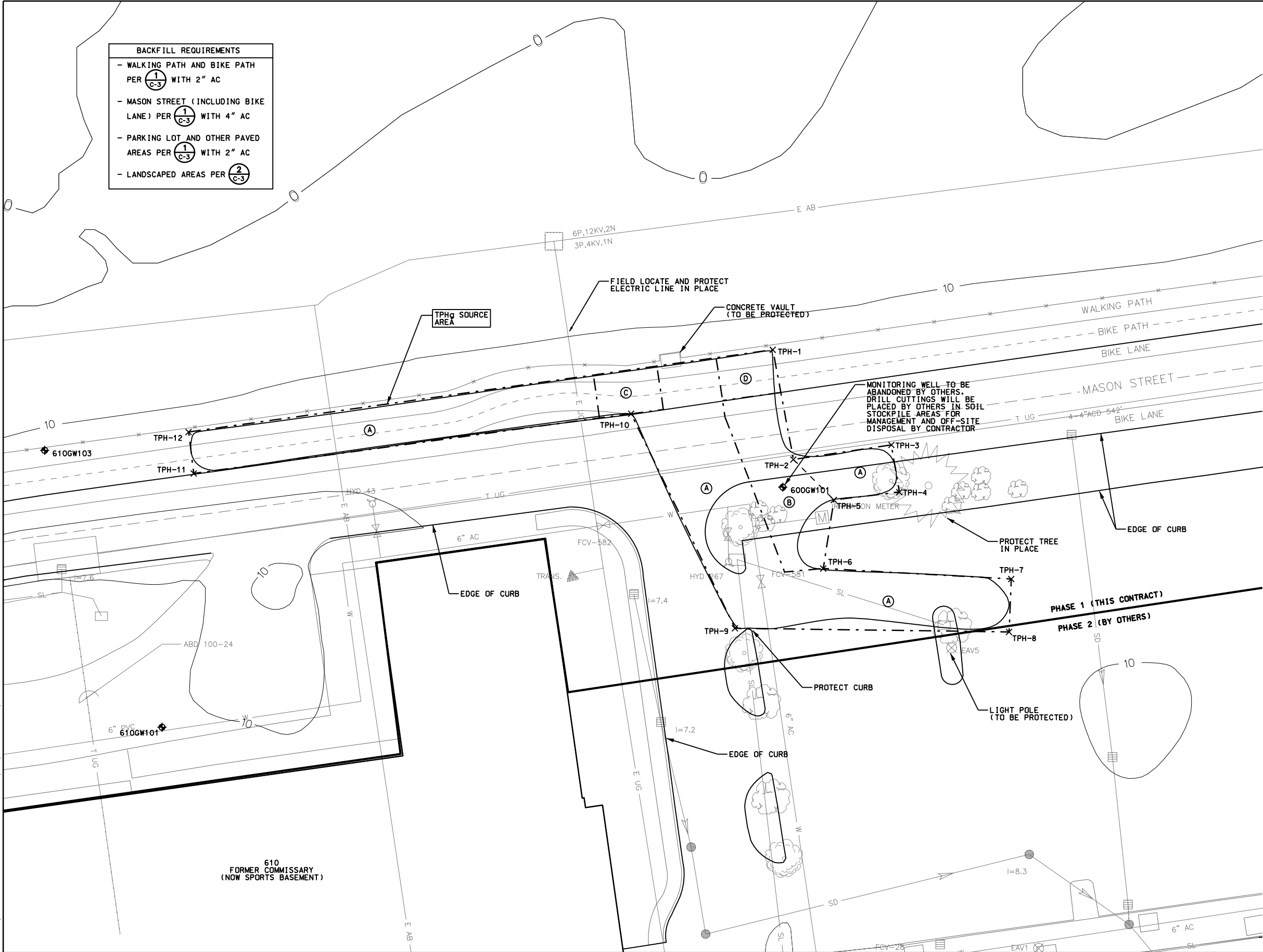
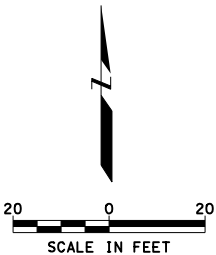
BACKFILL REQUIREMENTS	
- WALKING PATH AND BIKE PATH	PER $\frac{1}{C-3}$ WITH 2" AC
- MASON STREET (INCLUDING BIKE LANE)	PER $\frac{1}{C-3}$ WITH 4" AC
- PARKING LOT AND OTHER PAVED AREAS	PER $\frac{1}{C-3}$ WITH 2" AC
- LANDSCAPED AREAS	PER $\frac{2}{C-3}$

LEGEND	
	PHASE 1/PHASE 2 BOUNDARY
	SURVEY CONTROL POINTS TO LOCATE INITIAL EXCAVATION AREA
	CONTOUR WITH ELEVATION IN FEET (NAVD 88)
	ELECTRICAL ABANDONED
	ELECTRICAL BELOW GROUND
	STORM DRAIN WITH MANHOLE AND CATCH BASIN
	GAS
	SANITARY SEWER WITH MANHOLES
	WATER
	TELECOM BELOW GROUND
	STREET LIGHT
	GROUNDWATER MONITORING WELL (TO BE PROTECTED)
	TREES, BUSHES AND SHRUBS (APPROXIMATE LOCATIONS)

IMPACTED SOIL AREA	INITIAL DEPTH OF EXCAVATION (FEET)
(A)	3
(B)	5
(C)	6
(D)	10

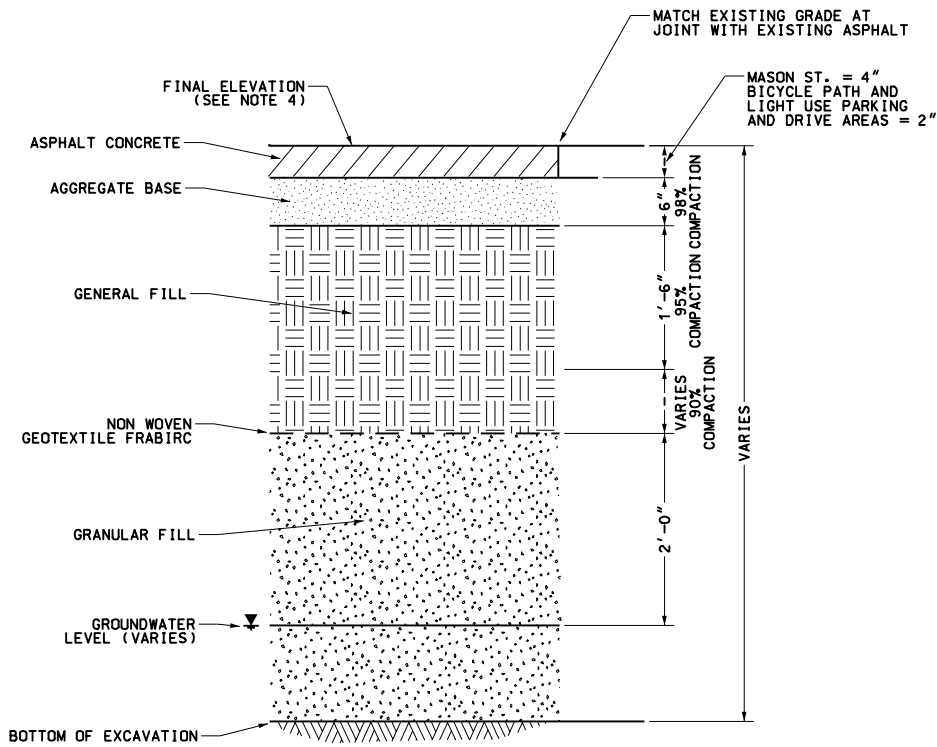
CONTROL POINT	NORTHING	EASTING
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TPH-2	1434479.80	480591.59
TPH-3	1434519.08	480597.39
TPH-4	1434522.26	480578.50
TPH-5	1434496.03	480575.36
TPH-6	1434491.79	480547.89
TPH-7	1434567.06	480543.68
TPH-8	1434566.22	480522.45
TPH-9	1434456.54	480523.94
TPH-10	1434414.84	480609.92
TPH-11	1434239.71	480585.93
TPH-12	1434237.62	480602.57

- NOTES:
- FOR GENERAL NOTES SEE DRAWING G-1.
 - FOR EXCAVATION NOTES SEE DRAWING C-1.
 - LOCATION OF IMPACTED SOIL AREAS (A), (B), AND (C) TO BE MARKED BY ENGINEER IN FIELD USING CONTROL POINTS ESTABLISHED BY CONTRACTOR.



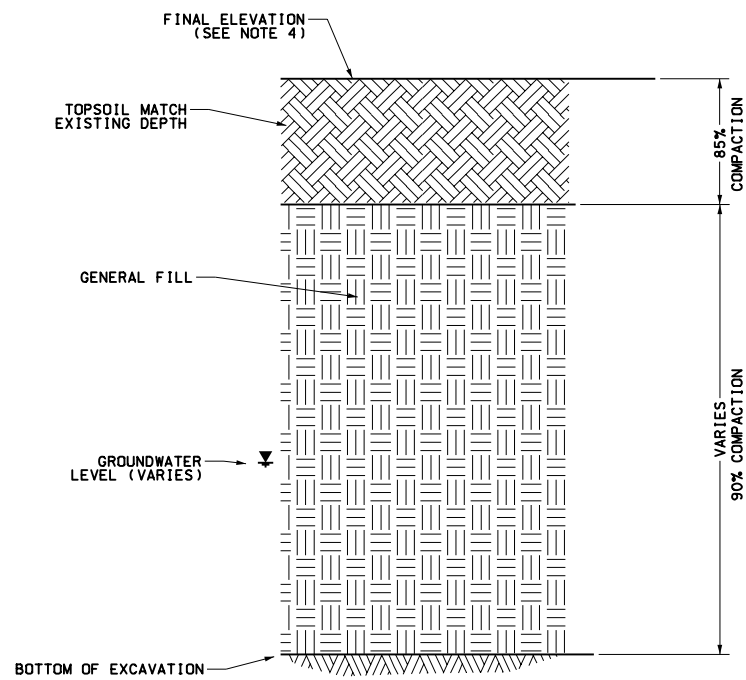
REFERENCES: PLANS DATUM	NO.	REVISION	DATE	APRVD	DRAWN: SLW DESIGNED: ADC CHECKED: MTB REVIEWED: FSS	 Presidio Trust 34 Graham Street P.O. Box 29062 San Francisco, CA 94129-0062 415/561-5300 fax 415/561-5315 April 2006	 Geomatrix Geomatrix Consultants 2101 Webster Street, Suite 1200 Oakland, California (510) 663-4100	EAST EXCAVATION AREA PHASE I CORRECTIVE ACTION PLAN COMMISSARY/PX AREA THE PRESIDIO OF SAN FRANCISCO SAN FRANCISCO, CALIFORNIA	DATE: 26-APR-2006 09:39	
									SCALE: AS NOTED	
									SHEET: 5 OF 8 SHEETS	
									PROJ. No. 9886.000	C-2

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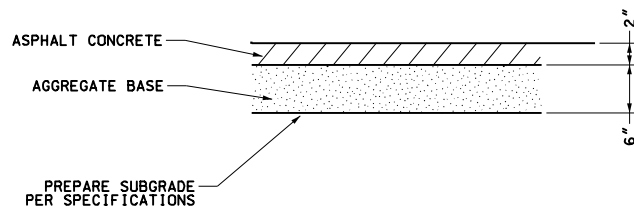
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PAVED AREAS

1 0 1
SCALE IN FEET



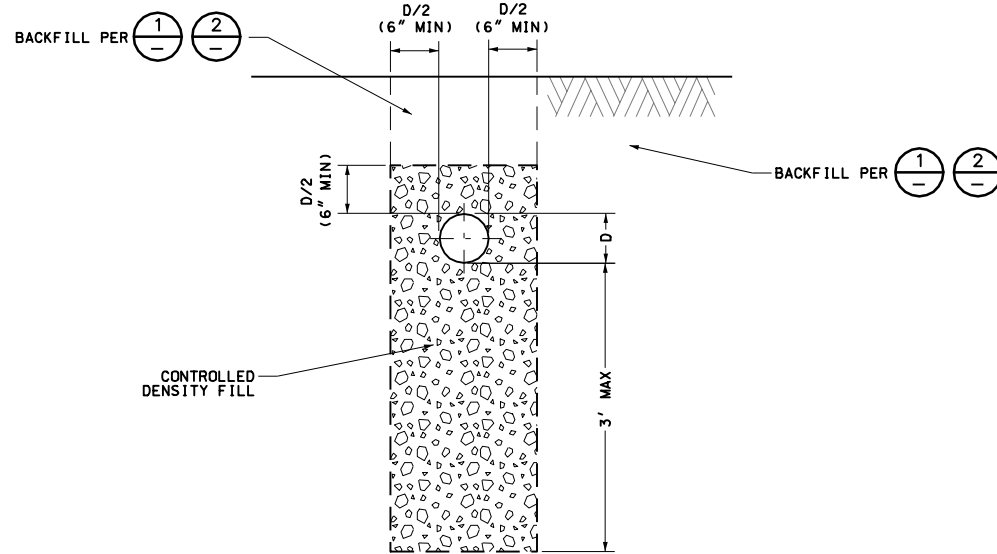
TYPICAL BACKFILL SECTION 2
UNPAVED AREAS

1 0 1
SCALE IN FEET



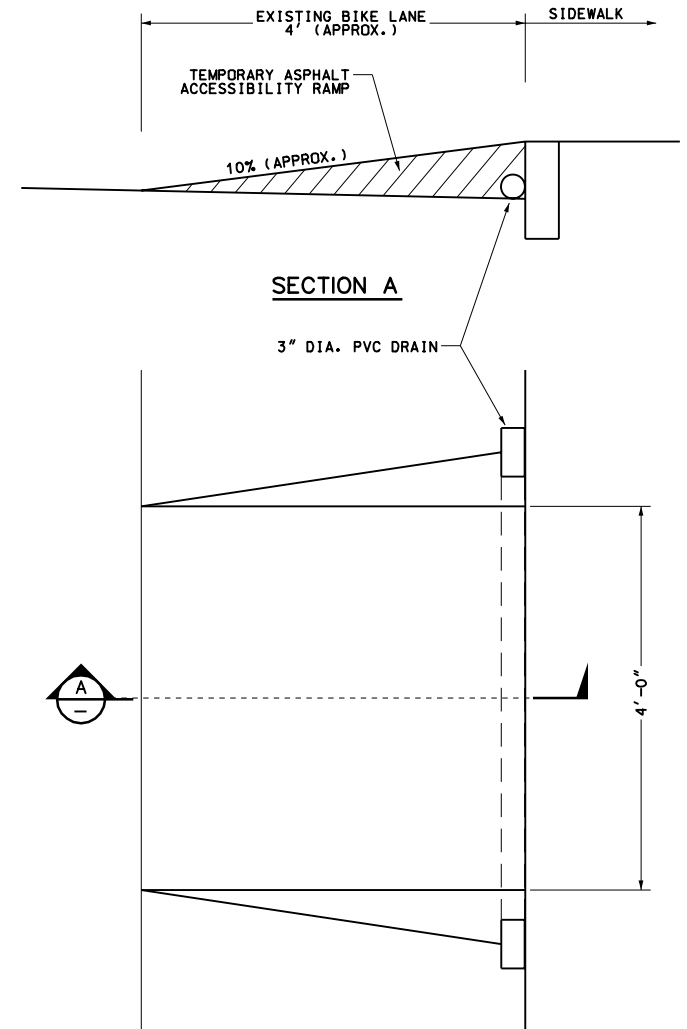
SECTION 3
TEMPORARY PAVING

1 0 1
SCALE IN FEET



BACKFILL AROUND UTILITIES SECTION 4
IN OPEN EXCAVATIONS

1 0 1
SCALE IN FEET



PLAN

DETAILS OF TEMPORARY ASPHALT 5
ACCESSIBILITY RAMP

1 0 1
SCALE IN FEET

- NOTES:
1. FOR GENERAL NOTES SEE DRAWING G-1.
 2. FOR EXCAVATION NOTES SEE DRAWING C-1.
 3. BEFORE PLACING NEW ASPHALT CONCRETE PAVEMENT, CONTRACTOR SHALL SAW CUT EXISTING ASPHALT CONCRETE PAVEMENT TO FORM A CLEAN SURFACE AGAINST WHICH TO PLACE NEW ASPHALT CONCRETE, IN ACCORDANCE WITH THE SPECIFICATIONS.
 4. FINAL ELEVATIONS TO MATCH PRE-CONSTRUCTION SURVEY WITHIN 0.05 FOOT.

REFERENCES:	NO.	REVISION	DATE	APRVD
PLANS				
NOT AVAILABLE				
DATUM				

DRAWN: SLW
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REVIEWED: FSS



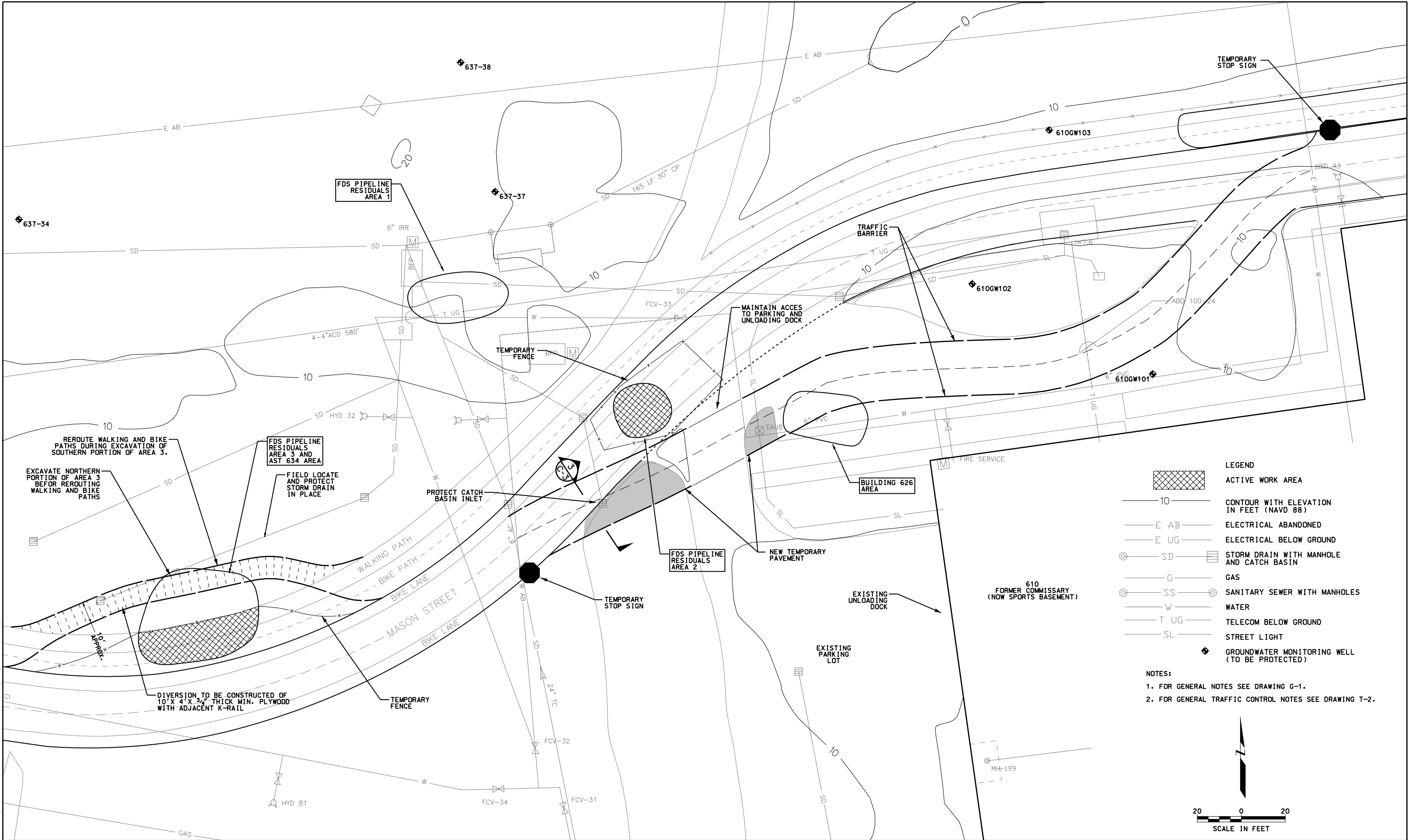
Presidio Trust
34 Graham Street
P.O. Box 29062
San Francisco, CA 94129-0062
415/561-5300
fax 415/561-5315
April 2006



Geomatrix Consultants
2101 Webster Street, Suite 1200
Oakland, California
(510) 663-4100

SECTIONS AND DETAILS
PHASE I CORRECTIVE ACTION PLAN
COMMISSARY/PX AREA
THE PRESIDIO OF SAN FRANCISCO
SAN FRANCISCO, CALIFORNIA

DATE: 26-APR-2006 10:19	
SCALE: AS NOTED	
SHEET: 6 OF 8 SHEETS	
PROJ. No. 9886.000	C-3



REFERENCES:

PLANS

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NO.	REVISION	DATE	APRVD

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34 Graham Street
P.O. Box 29062
San Francisco, CA 94129-0062
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April 2006



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Geomatrix Consultants
2101 Webster Street, Suite 1200
Oakland, California
(510) 663-4100

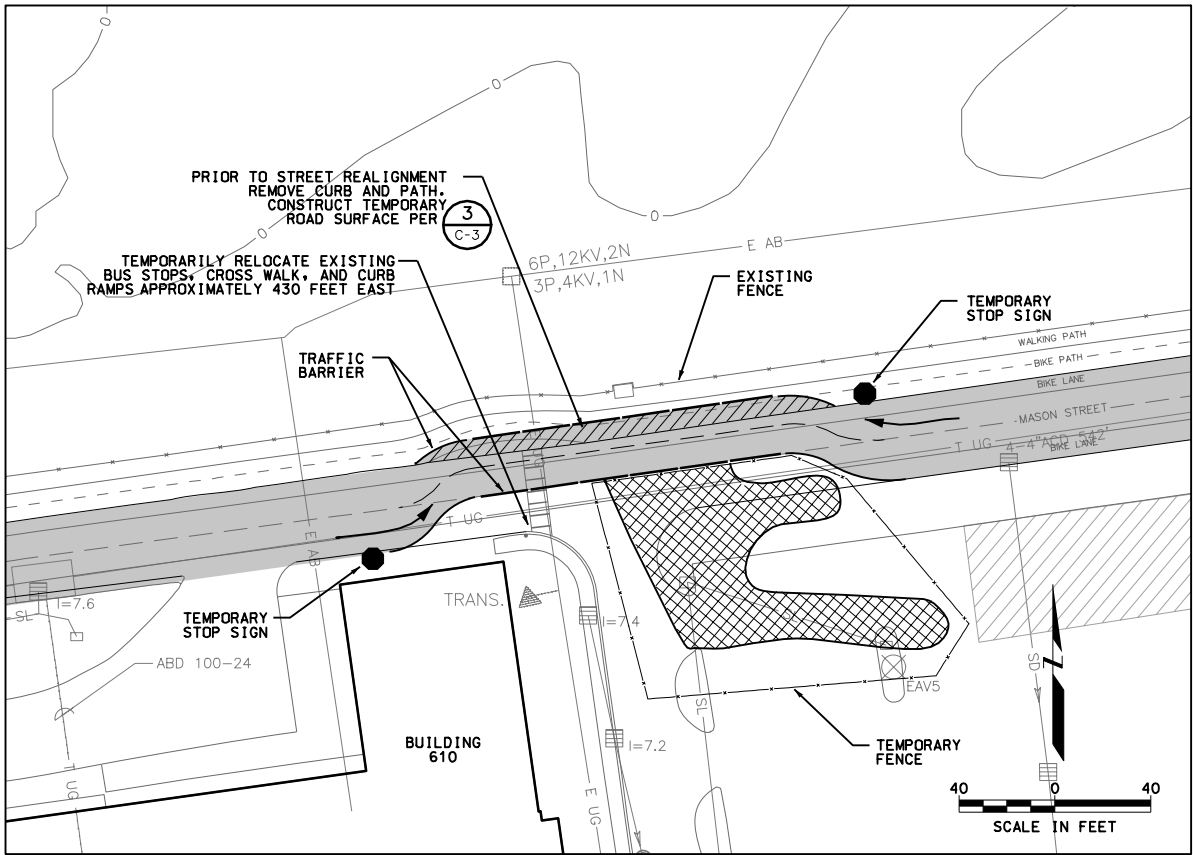
WEST EXCAVATION AREA - MASON STREET REALIGNMENT
PHASE I CORRECTIVE ACTION PLAN
COMMISSARY/PX AREA
THE PRESIDIO OF SAN FRANCISCO
SAN FRANCISCO, CALIFORNIA

DATE: 26-APR-2006 09:45
SCALE: AS NOTED
SHEET: 7 OF 8 SHEETS

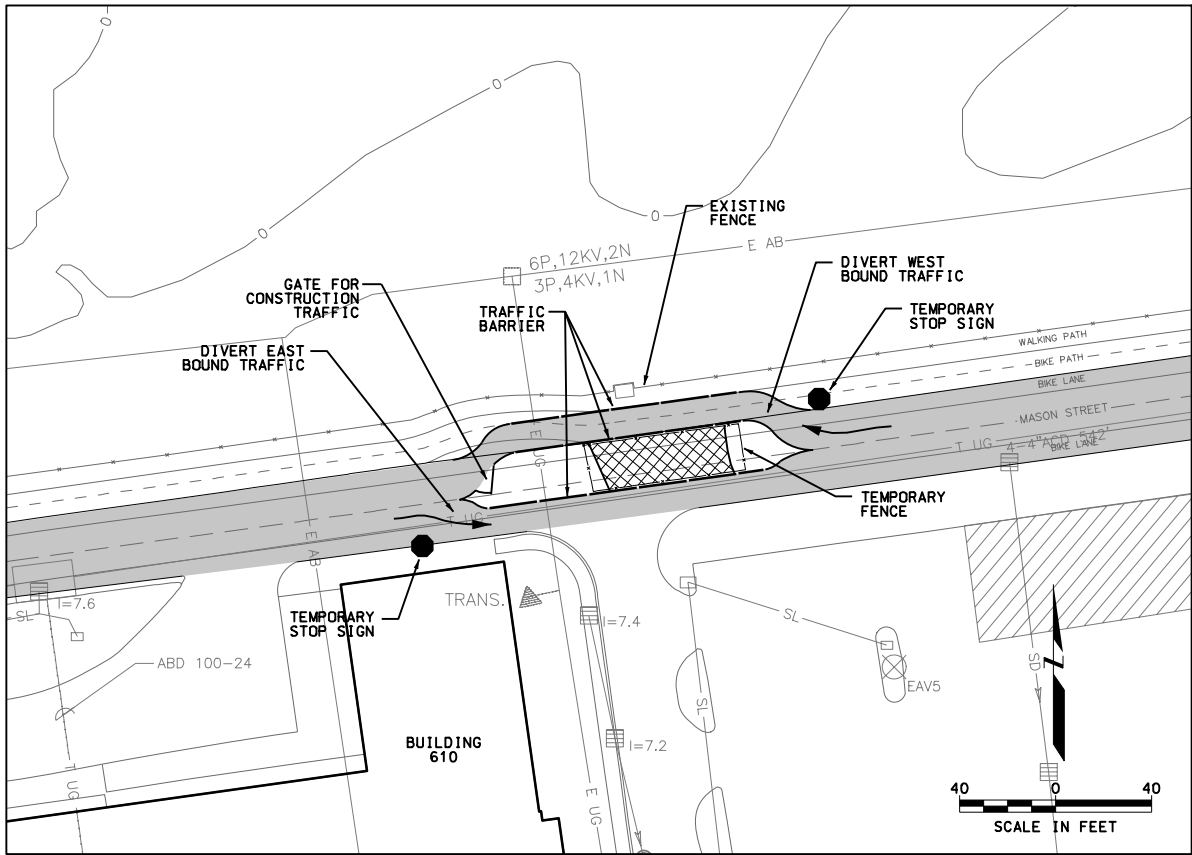
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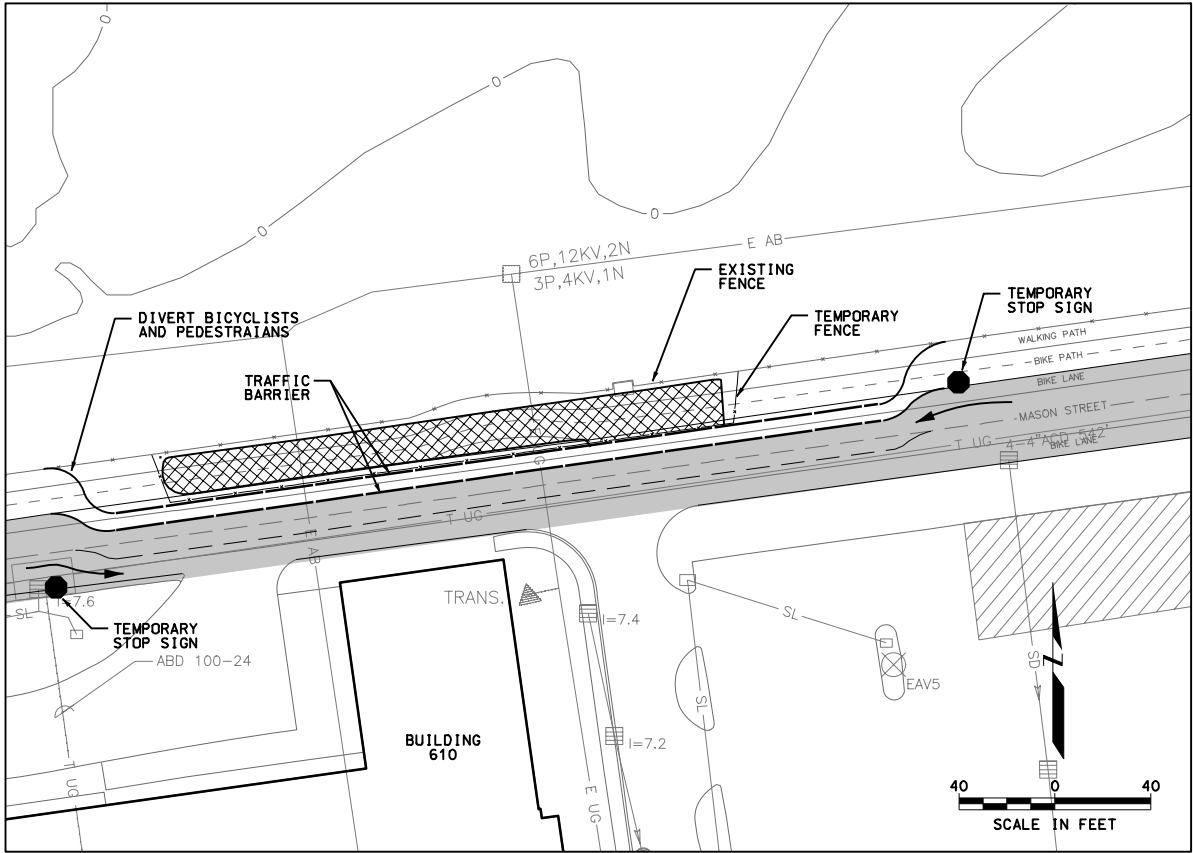


PHASE 1

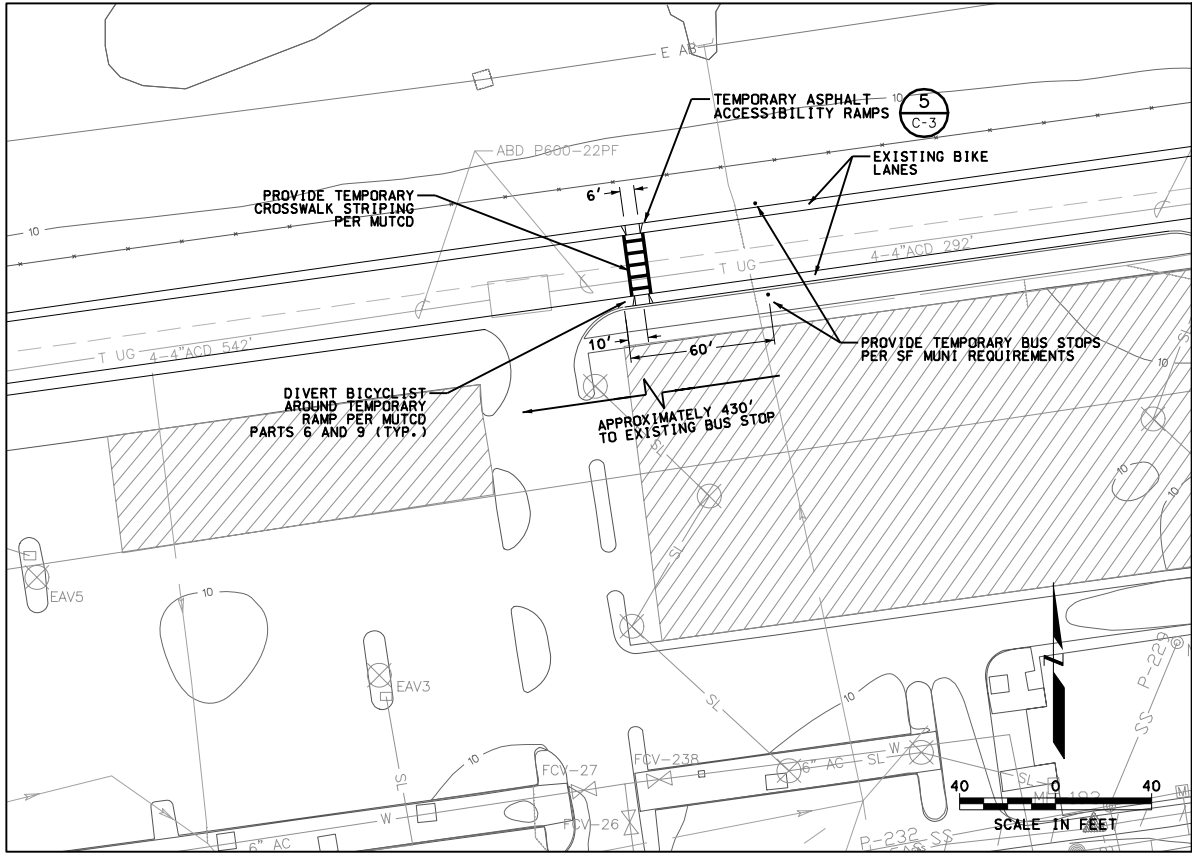


PHASE 2

LEGEND	
	ACTIVE WORK AREA DURING DIVERSIONS (OUTLINE OF NON-ACTIVE EXCAVATION AREAS OMITTED FOR CLARITY)
	TRAFFIC FLOW
	CONTOUR WITH ELEVATION IN FEET (NAVD 88)
	ELECTRICAL ABANDONED
	ELECTRICAL BELOW GROUND
	STORM DRAIN WITH MANHOLE AND CATCH BASIN
	GAS
	SANITARY SEWER WITH MANHOLES
	WATER
	TELECOM BELOW GROUND
	STREET LIGHT



PHASE 3



BUS STOP AND CROSSWALK RELOCATION

- NOTES:
- FOR GENERAL NOTES SEE DRAWING G-1.
 - ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION'S (FHWA) MANUAL ON UNIT-FORM TRAFFIC CONTROL DEVICES (MUTCD) 2003 AS AMENDED BY THE MUTCD 2003 CALIFORNIA SUPPLEMENT; AND CONSISTENT WITH THE "PHASE 1 CORRECTIVE ACTION PLAN WORK PLAN".
 - SAFETY OF THE PUBLIC AND CONVENIENCE OF TRAFFIC SHALL BE REGARDED AS OF PRIME IMPORTANCE. UNLESS OTHERWISE DIRECTED, CONTRACTOR SHALL KEEP PUBLIC STREETS OPEN AND SHALL PROVIDE A DUST FREE, SMOOTH AND COMFORTABLE RIDE TO TRAFFIC. IT SHALL BE RESPONSIBILITY OF CONTRACTOR TO ENSURE THAT TRAFFIC MAY SAFELY BYPASS THE CONSTRUCTION SITES AND THAT ACCESS IS PROVIDED TO ADJACENT BUSINESSES. FLAGGERS SHALL ASSIST TRAFFIC AT ALL TIMES WHEN TRUCKS ARE ENTERING ROADWAYS. TWO WAY TRAFFIC SHALL BE MAINTAINED ON MASON STREET UNLESS PRIOR APPROVAL IS OBTAINED FROM THE OWNER.
 - CONTRACTOR SHALL RESTORE TEMPORARY PATHWAYS AREAS THROUGH EXISTING GREEN SPACES AND DISPOSE OR RECYCLE THE PLYWOOD AT AN OWNER-APPROVED DISPOSAL FACILITY IN ACCORDANCE WITH THE SPECIFICATIONS.
 - ALL ROAD REALIGNMENTS SHOWN ON THE DRAWINGS ARE CONCEPTUAL ARRANGEMENTS. CONTRACTOR SHALL DESIGN SPECIFIC DETAILS OF IMPLEMENTATION, INCLUDING, BUT NOT LIMITED TO: ROADWAY WIDTHS, RADIUS OF BENDS, DETAILS OF BARRIERS, BARRICADES, SIGNS AND WARNING DEVICES, AND OTHER DETAILS IN COMPLIANCE WITH THE MUTCD.
 - CONTRACTOR SHALL COORDINATE TRAFFIC CONTROL WITH ITS EXCAVATION PROTECTION PLAN. CONTRACTOR SHALL PHASE EXCAVATION PLAN AND THE WORK SO AS TO MINIMIZE DISRUPTION TO TRAFFIC AND PEDESTRIANS. THIS DRAWING SHOWS A CONCEPTUAL PHASING PLAN.
 - NO LOADING OF SOIL ON ACTIVE STREETS.
 - CONTRACTOR SHALL RELOCATE EXISTING BUS STOP, CROSSWALK, AND CURB RAMPS EAST OF THE WORK AREA AT LOCATION DESIGNATED BY THE ENGINEER. AT END OF WORK, REINSTATE BUS STOP, CROSSWALK, AND CURB RAMPS AT CURRENT LOCATION AT NORTH EAST CORNER OF BUILDING 610. PROVIDED SIGN INFORMING RIDERS OF LOCATION OF TEMPORARY BUS STOP AND CROSSWALK, PER MUTCD.

REFERENCES:	NO.	REVISION	DATE	APRVD
PLANS				
DATUM				

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REVIEWED: **FSS**



Presidio Trust
34 Graham Street
P.O. Box 29062
San Francisco, CA 94129-0062
415/561-5300
fax 415/561-5315
April 2006



Geomatrix Consultants
2101 Webster Street, Suite 1200
Oakland, California
(510) 663-4100

EAST EXCAVATION AREA - MASON STREET REALIGNMENT
PHASE I CORRECTIVE ACTION PLAN
COMMISSARY/PX AREA
THE PRESIDIO OF SAN FRANCISCO
SAN FRANCISCO, CALIFORNIA

DATE: 26-APR-2006 10:18	
SCALE: AS NOTED	
SHEET: 8 OF 8 SHEETS	
PROJ. No. 9886.000	T-2

ATTACHMENT 1

San Francisco Public Utilities Commission Wastewater Discharge Permit



SAN FRANCISCO PUBLIC UTILITIES COMMISSION
Bureau of Environmental Regulation and Management

3801 THIRD STREET, SUITE 600, SAN FRANCISCO, CA 94124 • Tel. (415) 695-7310 • Fax (415) 695-7388



PERMIT NO. 05-0246

INDUSTRIAL USER CLASS II WASTEWATER PERMIT

GAVIN NEWSOM
MAYOR

E. DENNIS NORMANDY
PRESIDENT

RICHARD SKLAR
VICE PRESIDENT

ANN MOLLER CAEN
ADAM WERBACH
RYAN L. BROOKS

SUSAN LEAL
GENERAL MANAGER

Discharger:

Presidio Water Treatment Plant
1773 Gibson Rd.
Presidio of San Francisco, CA 94129

SIC/ID:

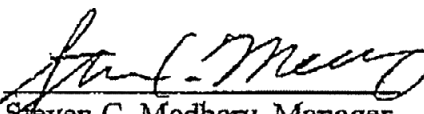
4941/02008

Pursuant to the provisions of Sections 120, 124 and 125 of Chapter X (Public Works Code) of Part II of the San Francisco Municipal Code, Article 4.1 (hereinafter referred to as "Article 4.1"), it is hereby ordered that the above industrial user/permittee is authorized to discharge wastewater, from the indicated business address, into the City and County of San Francisco's (City's) sewerage system, provided that such wastewater discharges are performed through the facility's approved side sewer(s), and are in accordance with the conditions set forth in this **Class II Wastewater Permit**.

Compliance with this permit does not relieve the permittee of its obligation to comply with any or all applicable pretreatment regulations, standards or requirements under local, state and federal laws, including any such regulations, standards, requirements, or laws which may become effective during the term of this permit. Noncompliance with any condition of this permit shall constitute a violation of Article 4.1.

Effective date of permit:
Re-application date:
Expiration date of permit:

February 7, 2005
November 6, 2009
February 6, 2010

By: 
Steven C. Medbery, Manager
Environmental Regulation
and Management

Date: February 7, 2005

Part I - WASTEWATER EFFLUENT LIMITATIONS AND PROHIBITIONS

- A. During the period of February 7, 2005 to February 6, 2010, the permittee is authorized to discharge all wastewater through the approved side sewer(s) from the facility.
- B. During the effective period of this permit, any sample representative of the permittee's wastewater discharges to the side sewer(s) shall not at any time exceed the following numerical limitations, which are contained in Section 123 of Article 4.1:

1. Based upon any grab sample¹ of the permittee's wastewater:

<u>Pollutant parameter</u>	<u>Limit</u>
pH	6.0 min.; 9.5 max.
Dissolved Sulfides	0.5 mg/L
Temperature (except where higher temperatures are required by law)	125°F (52°C)
Hydrocarbon Oil and Grease	100 mg/L

2. Based upon grab samples of the permittee's wastewater, flow-weighted over a production week²:

<u>Pollutant parameter</u>	<u>Limit</u>
Total Recoverable Oil and Grease	300 mg/L

- C. During the effective period of this permit, any sample representative of the permittee's wastewater discharges to the side sewer(s) shall not exceed the following numerical limits, which are contained in the City's Department of Public Works (DPW) Order No. 158170 (1991), which is incorporated by reference in this permit:

1. Based upon 24-hour composite sampling³:

¹ A "grab sample" means an individual sample of wastewater collected over a period of time not exceeding 15 minutes, as defined in federal regulations at 40 CFR Part 403.7(d)(2)(iv)(1990).

² A "production week" means the typical number of days in a calendar week when wastewater is discharged from routine operation and/or cleanup of the permittee's facility.

FINAL REPORT ON LOCAL/GENERAL DISCHARGE LIMITATION DEVELOPMENT

<u>Pollutant/Pollutant Parameter</u>	<u>Limit (mg/1)</u>
Arsenic (as Total)	4.0
Cadmium (as Total)	0.5
Chromium (as Total)	5.0
Copper (as Total)	4.0
Lead (as Total)	1.5
Mercury (as Total)	0.05
Nickel (as Total)	2.0
Silver (as Total)	0.6
Zinc (as Total)	7.0
Phenols	23.0
Cyanide (as Total)	1.0
pH	6.0 min;9.5 max
Dissolved sulfides	0.5 mg/1
Temperature	125' F (52' C)
Hydrocarbon oil and grease	100 mg/1
Total recoverable oil and grease	300 mg/1

ATTACHMENT 2

Storm Water Pollution Control Plan



CERTIFICATION

STORM WATER POLLUTION PREVENTION PLAN

Presidio Trust
34 Graham Street
P.O. Box 29052
San Francisco, California

April 2006
Project 9886.000

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel prepared the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for preparing the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Authorized Representative

April 26, 2006

Date

APPENDIX A
STORM WATER POLLUTION PREVENTION PLAN
Commissary/PX Study Area
Presidio of San Francisco, California

TABLE OF CONTENTS

	Page
AMENDMENTS	A-iii
A.1 INTRODUCTION	A-1
A.1.1 SITE HISTORY/BACKGROUND	A-1
A.1.2 PREVIOUS INVESTIGATIONS AND CORRECTIVE ACTIONS	A-2
A.1.3 CORRECTIVE ACTIONS AND SITE DEVELOPMENT	A-3
A.1.4 REGULATORY BACKGROUND	A-4
A.2 STORM WATER SOURCE IDENTIFICATION	A-4
A.3 POTENTIAL SOURCES OF POLLUTION.....	A-4
A.3.1 CHEMICALS OF CONCERN IN SOIL	A-4
A.3.2 STORM WATER POLLUTANT DISCHARGES	A-5
A.3.3 NON-STORM WATER DISCHARGES	A-5
A.4 EROSION, SEDIMENT AND POLLUTANT CONTROL PRACTICES	A-5
A.4.1 GENERAL PRACTICES	A-6
A.4.2 PRACTICES TO CONTROL SEDIMENT AND EROSION ONSITE	A-6
A.4.3 PRACTICES TO CONTROL MIGRATION OF SEDIMENT OFFSITE.....	A-7
A.4.4 WIND EROSION AND DUST CONTROL	A-7
A.4.5 MANAGEMENT PRACTICES FOR CONSTRUCTION VEHICLES AND EQUIPMENT....	A-8
A.4.6 MANAGEMENT PRACTICES FOR MATERIALS AND CHEMICAL STORAGE	A-9
A.4.7 SITE PERSONNEL CONTROL.....	A-10
A.5 STORM WATER MONITORING PROGRAM.....	A-10
A.5.1 TRAINING	A-10
A.5.2 SITE INSPECTION PROCEDURES.....	A-10
A.5.3 STORM WATER SAMPLING	A-11
A.5.4 REPORTING AND RECORD KEEPING	A-12
A.5.4.1 Noncompliance Reporting.....	A-12
A.5.4.2 Record Keeping	A-12
A.6 SPILL PREVENTION, CONTROL AND REPORTING	A-12
A.7 POST-CONSTRUCTION EROSION AND STORM WATER MANAGEMENT ..	A-12
A.8 CONTACTS	A-14
A.9 REFERENCES	A-15

TABLE OF CONTENTS

(Continued)

FIGURES

Figure A-1	Commissary/PX Site Location Map
Figure A-2	Site Plan with Phase 1 and Phase 2 Excavation Areas and Topography
Figure A-3A	Phase 1 Excavation/Erosion Control Plan
Figure A-3B	Phase 1 Excavation/Erosion Control Plan
Figure A-4A	Work Plan Area/Erosion Control Plan
Figure A-4B	Work Plan Area/Erosion Control Plan
Figure A-5A	Phase 1 Post-Construction Erosion Control Plan
Figure A-5B	Phase 1 Post-Construction Erosion Control Plan

APPENDIX A
STORM WATER POLLUTION PREVENTION PLAN
Commissary/PX Study Area
Presidio of San Francisco, California

AMENDMENTS

Amendment of this Storm Water Pollution Prevention Plan (SWPPP) is required “whenever there is a change in construction or operations which may affect the discharge of pollutants to surface waters, groundwaters, or municipal separate storm sewer systems”(National Pollutant Discharge Elimination System [NPDES] General Permit, Construction Activity). Additionally, if implementation of the SWPPP results in insufficient reduction of sediment-laden storm water runoff leaving the site, the Trust will prepare and implement the necessary amendment within a timely manner or at the most, within 14 days.

All amendments to the SWPPP must be documented. The amendments are used to document the specific amendment, describe the purpose of the amendment, who was responsible for the amendment and their contact information. All amendments shall be dated and directly attached to the SWPPP.

APPENDIX A

STORM WATER POLLUTION PREVENTION PLAN

Commissary/PX Study Area
Presidio of San Francisco, California

A.1 INTRODUCTION

Geomatrix Consultants, Inc. (Geomatrix) has prepared this Storm Water Pollution Prevention Plan (SWPPP) for the Commissary/Post Exchange (PX) Study Area (the Study Area) at the Presidio in San Francisco, California on behalf of the Presidio Trust (Trust). This SWPPP was prepared in accordance with the provisions of the State Water Resources Control Board National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities (General Permit). The Trust, with approval by the California Regional Water Quality Control Board—San Francisco Bay Region (RWQCB) have agreed to proceed with the implementation of the Phase 1 CAP Work Plan (Geomatrix, 2006) to implement the corrective action recommended in the *Revised Final Corrective Action Plan for the Commissary/Post Exchange Study Area* (Final CAP, Treadwell & Rollo [T&R], 2006).

The Trust will file a Notice of Intent (NOI) with the State Water Resources Control Board in advance of contractor mobilization. As discussed in the Final CAP and Phase 1 CAP Work Plan, Phase 1 corrective action will include soil removal from all impacted areas located within Area A (managed by National Park Service [NPS]) and portions of Area B (managed by the Trust) within an approximate 150-foot buffer zone along the Crissy Field Marsh shoreline. The objective of the corrective action within the Phase 1 Area is to address petroleum-affected soil that potentially poses a threat to Crissy Field Marsh and land uses within Area A.

The provisions of this SWPPP will apply during construction activities during implementation of the Phase 1 CAP Work Plan (soil removal/construction) and for a limited period of time afterwards until a Notice of Termination (NOT) has been submitted by the Trust.

A.1.1 SITE HISTORY/BACKGROUND

The Presidio is located at the northern tip of the San Francisco peninsula (Figure 1). It occupies approximately 1,491 acres and is bounded by San Francisco Bay on the north and the

Pacific Ocean on the west. Densely populated residential areas of San Francisco border the Presidio to the south and east. The Presidio was a U.S. Army (Army) installation from 1848 through 1994, serving as a mobilization and embarkation point during several overseas conflicts, a medical debarkation center, and a coastal defense for the San Francisco Bay area. Industrial operations formerly performed at the Presidio are associated with maintenance and repair of vehicles, aircraft, and base facilities. The Presidio also contains a number of landfills used by the Army for the disposal of municipal waste and construction debris.

The Study Area is situated at the northern end of the Presidio, and generally lies between Mason Street and Doyle Drive (U.S. Highway 101; Figure 2). Prior to the development of the Commissary and PX, the Study Area housed a number of Army structures, which no longer exist, as part of the Motor Pool. Reviews of historical records, aerial photographs, interviews, and site reconnaissance have identified approximately 30 structures that were present in the Study Area. These structures were used at various times to store supplies, equipment, and fuels to service and maintain vehicles for the Presidio. Additionally, numerous underground storage tanks (USTs) and above ground storage tanks (ASTs), fuel dispensers, and associated conveyance pipelines were reported active at various times between 1900 and 1984 (IT Corporation [IT], 1998). The Motor Pool was demolished in 1984.

A.1.2 PREVIOUS INVESTIGATIONS AND CORRECTIVE ACTIONS

Historical activities in the Study Area resulted in petroleum hydrocarbon releases that were characterized in the Site Investigation (SI) and documented in the SI Report (T&R, 2003). In addition to the identified petroleum releases, four Study Area sites were associated with releases of hazardous substances as defined under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Planned remedial actions for these four CERCLA sites have been documented in a Draft Remedial Action Plan (MACTEC, 2004) and remediation for CERCLA sites will be addressed independently but in coordination with the actions described in the Phase 1 CAP Work Plan.

Several past corrective actions have been conducted in the Study Area to address various petroleum hydrocarbon releases, including:

- Building 626 waste oil UST removal;
- Building 603 UST removal;

- FDS-1 UST (Building 617) removal;
- FDS pipeline to FDS-1 removal (pipeline BR6-5);
- Contingency Site 171199-1100 and the Commissary Seeps Interim Source Removal Action;
- FDS pipelines CF-3, CF-4, and CF-12; and
- Contingency Site 111098-1100.

Results from these previous corrective actions are summarized in the Final CAP (T&R, 2006).

A.1.3 CORRECTIVE ACTIONS AND SITE DEVELOPMENT

During implementation of the Phase 1 CAP Workplan, contaminated soil will be removed from all portions of the Study Area within Area A and portions of Area B located within approximately 150 feet of the present boundaries of Crissy Field Marsh shoreline (i.e., TPHg Source Area, the northern portion of Building 626 RU, and Fuel Distribution System (FDS) Pipeline Residuals Areas 1, 2 and 3 with AST 634 Area; Figures 3A and 3B).

The Phase 2 corrective action will occur within the remainder of the Study Area. Phase 2 will commence following decisions regarding the potential expansion of the Crissy Field Marsh into the Phase 2 Area. During Phase 2, soil will be removed from RUs located within the Phase 2 Area consistent with land use decisions, subject to RWQCB approval. If the Crissy Field Marsh is expanded into the area, cleanup will be conducted to protect the marsh and human land use, as applicable. If the Crissy Field Marsh is not expanded into the area, cleanup may be conducted to protect the anticipated land use (i.e., recreational use). These cleanup decisions will be made in consultation with the RWQCB prior to implementation of the Phase 2 corrective actions. The Trust will proceed with Phase 2 corrective actions work no later than the end of 2008.

This SWPPP addresses corrective actions that will be implemented during Phase 1. The Trust will prepare a separate SWPPP, if required, prior to implementation of the Phase 2 corrective actions.

A.1.4 REGULATORY BACKGROUND

Implementation of the Phase 1 CAP Work Plan will involve disturbing more than one acre and is therefore required to comply with the Construction General Permit regulations that stipulate development and implementation of a SWPPP. To comply with the General Permit, the Trust will submit a Notice of Intent (NOI) to discharge storm water to the State Water Resources Control Board prior to commencement of remedial construction activities at the site.

A.2 STORM WATER SOURCE IDENTIFICATION

The Study Area is relatively flat with elevated terrain south of Doyle Drive and southwest of the southwest corner of the Study Area (see topography shown on Figure A-2). The southern perimeter of the Study Area is adjacent to the Doyle Drive elevated structure. Numerous storm drain discharge pipes from the Doyle Drive structure drain onto the ground surface immediately beneath Doyle Drive. Several storm water catch basins are located throughout the parking lot areas, building landscaping, and on Mason and Halleck Streets (Figure A-2). Based on topography and observations during a December 31, 2005 and January 2, 2006 storm event, it appears that general surface water runoff in the Study Area drains in a northerly direction or to adjacent storm drain catchbasins. Generalized surface storm water flow directions are shown in Figure A-2. The storm drain catch basins in the Commissary area drain to Crissy Marsh.

A.3 POTENTIAL SOURCES OF POLLUTION

This section discusses the potential pollutants and source areas that have potential to pollute storm water runoff during implementation of the Phase I CAP Work Plan.

A.3.1 CHEMICALS OF CONCERN IN SOIL

Excavated soil is expected to be impacted by several chemicals of concern (COC) as identified in the CAP. Chemicals in soil that exceed cleanup levels were retained as COCs and include total petroleum hydrocarbons (TPH) quantified as gasoline (TPHg), diesel (TPHd) and fuel oil (TPHfo), benzene, the following six polycyclic aromatic hydrocarbons (PAHs): benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene, and the following six metals: cadmium, chromium, copper, lead, nickel, and zinc. As discussed in the Phase 1 CAP Workplan, excavated soil may be temporarily stockpiled on-site for characterization prior to off-site disposal. Handling of stockpiled soil is described in Section A.4.2.

A.3.2 STORM WATER POLLUTANT DISCHARGES

Sources of storm water pollutants at the Study Area include:

- Staging and equipment storage area: Earth moving equipment such as loaders and excavators will be brought on site during construction activities. Trucks and other equipment will be parked within active excavation areas or in staging area identified in the Phase 1 CAP Work Plan (Figures 4a and 4b). Equipment related leaks can occur from the rupture of any of the liquid reservoirs (fuel, crankcase oil, gearbox oils, hydraulic oils, or radiator coolant) or associated piping on individual pieces of equipment.
- Excavation and construction activities: Excavation activities have the potential to release soil that may be impacted with petroleum hydrocarbons, metals, and PAHs.
- Stockpile storage area: Soil may be temporarily stockpiled in the areas designated in the Phase 1 CAP Work Plan (Figures 4a and 4b). Soil stockpiles have the potential to release soil that may be impacted with petroleum hydrocarbons, metals and PAHs.

Confirmation sampling will be performed to ensure that soil left in place meets applicable cleanup levels presented in the CAP.

A.3.3 NON-STORM WATER DISCHARGES

Based on previous investigations, depth to groundwater at the Study Area is estimated to be approximately 3 to 4 feet below ground surface (bgs) and since some of the petroleum-impacted soils extend to a depth of 10 feet bgs, dewatering will be required. Groundwater will be stored in tanks and then sampled and discharged to the sanitary sewer under a permit with the SFPUC as described in the Phase I CAP Work Plan.

Water trucks using potable water may be used for dust control measures, but the sprayed water will be absorbed into the soil. Excessive dust control spraying will be prohibited.

As stated in the General NPDES permit, there will be no non-storm water discharges occurring at the site.

A.4 EROSION, SEDIMENT AND POLLUTANT CONTROL PRACTICES

This section describes practices that will be implemented to control erosion and pollution of storm water.

A.4.1 GENERAL PRACTICES

Best management practices (BMPs) to be used at the Study Area are shown on the Excavation/Erosion Control Plan presented in Figures A-3A and A-3B and Work Plan Area/Erosion Control Plan presented on Figures A-4A, and A-4B. Erosion and sediment control practices that will be implemented at the site after construction has been completed is presented on the Final Erosion Control Plan (Figures A-5a and A-5b). These practices conform to the recommendations described in the Association of Bay Area Governments (ABAG) publication *Manual of Sediment and Erosion Control Measures* (ABAG, 1995), the RWQCB's *Erosion and Sediment Control Field Manual* (RWQCB, 1999) and information on the California Stormwater Quality Association website <http://www.cabmphandbooks.com/Construction.asp>. BMPs such as engineering controls, scheduled inspections, maintenance, employee training, and other management activities will be implemented to reduce the potential for pollutants to enter storm water.

A.4.2 PRACTICES TO CONTROL SEDIMENT AND EROSION ONSITE

The Contractor will construct and maintain soil staging facilities at the Site for stockpiling excavated material. The excavation areas are shown on Figures A-3a and A-3b. Proposed locations for the soil staging facilities are shown on Figures A-4a and A-4b and include an existing asphalt pad located west of Building 610 and existing asphalt parking areas east of Building 610. The soil staging facilities will be constructed with a 10-mil HDPE bottom liner over the existing asphalt with the sides bermed with K-rails and certified weed and seed free straw wattles. Stockpiled material in the soil staging facilities will be covered with weighted 10-mil polyethylene sheeting during periods when material is not going to be added or removed.

Containment, storage, and disposal of free liquids and/or stabilization of excavated material in soil staging facilities will be performed, if required, so that the material is acceptable (i.e., no free liquids) for receipt by off-site disposal facilities. Materials used to stabilize the soil, if necessary, may include Portland cement or fly ash. Water that accumulates in soil staging areas will be collected, treated, and discharged along with water pumped directly from the excavation as described in Appendix C of the Phase 1 CAP Work Plan.

Specific practices that will be implemented to reduce the sediment load of storm water runoff from the Study Area include:

- Grading active work areas to prevent storm water from running from active work areas onto undisturbed areas.
- Installing storm water control devices (i.e., weed and seed free straw wattles and erosion control blankets, silt fences, and gravel bags) at the Study Area until vegetation is reestablished or the area is capped with landscaping material, pavement, or concrete;
- Sweeping streets adjacent to work areas on a regular (at least daily) basis;
- Protecting existing catch basins with silt fences or weed and seed free straw wattles; and
- Installing gravel bags on Mason Street (perpendicular to curb and sidewalk).

All straw wattles and erosion control blankets utilized on the project will be certified as weed and seed free. On completion of excavation and backfilling operations, the Study Area will be restored to pre-construction conditions (Figures A-5a and A-5b).

A.4.3 PRACTICES TO CONTROL MIGRATION OF SEDIMENT OFFSITE

Prior to beginning work, the Contractor will establish a decontamination area at the Site in which dust, debris, and soil will be removed from equipment and transportation vehicles prior to leaving the Site. Decontamination methods may consist of brushing, vacuuming, steam cleaning, high-pressure washing, or combinations of the above. If water is used for decontamination, the water will be collected and managed along with excavation dewatering water as described in Appendix C of the Phase 1 CAP Work Plan.

A.4.4 WIND EROSION AND DUST CONTROL

The Contractor will establish an effective means of dust control to minimize the generation of dust associated with excavation activities, truck traffic onto and off the Study Area, and the effects of ambient wind. Dust control measures may include the following:

- Keeping vehicle speeds on unpaved surfaces below five miles per hour;
- Misting or spraying water while excavating soil and loading soil into trucks;
- Controlling excavation activities and excavation rates to minimize dust generation;
- Keeping drop heights to a minimum, while loading soil into trucks;

- Using dust suppressant additives in the water; and
- Covering soil stockpiles.

If visible dust is observed, immediate steps will be taken to eliminate it. These steps will include increasing the intensity of dust control activities. If, after increasing dust control activities visible dust is still being generated, excavation or loading activities will be stopped until a plan for further dust control measures is developed.

A.4.5 MANAGEMENT PRACTICES FOR CONSTRUCTION VEHICLES AND EQUIPMENT

The contractor for the construction site will conduct activities in conformance with the following guidelines to minimize vehicle/equipment contact with storm water.

Minor spills such as fuel from vehicles or other heavy equipment will be bermed with soil and cleaned using dry absorbent materials. If it is raining, the spill will be covered to avoid runoff. The contractor will be responsible for proper disposal of all wastes associated with spill cleanup. The following practices will be used during equipment and vehicle maintenance, vehicle fueling, and washing of construction vehicles.

Equipment and Vehicle Maintenance

- All construction equipment will be maintained to prevent oil or other fluid leaks.
- Vehicles and equipment will be kept clean; excessive buildup of oil and grease will be prevented.
- Off-site repair shops will be used.
- Spill cleanup materials will be kept readily accessible.
- On-site vehicles and equipment will be regularly inspected for leaks; repair immediately.
- Incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) will be checked for leaking oil and fluids. Leaking vehicles or equipment will not be allowed onto the site.
- Wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic and transmission fluids will be segregated and recycled.

Fueling

- If fueling occurs on-site, the contractor will use designated areas away from drainage.
- Fuel for construction equipment may be provided by an on-site tank or by a mobile refueling vehicle.
- If an on-site tank is used, it will be double contained and located in a lined berm designed to hold the tank volume.
- Secondary containment, such as a drain pan or drop cloth, will be used to catch spills or leaks when removing or changing fluids.
- Drip pans will be used for any oil or fluid changes.

Washing

- Designated, bermed wash areas will be used during vehicle washing to prevent waste water from flowing into catch basins and other water bodies.
- Phosphate-free biodegradable soaps will be used.

A.4.6 MANAGEMENT PRACTICES FOR MATERIALS AND CHEMICAL STORAGE

Chemicals will be stored in their original containers and will be clearly labeled at all times. If chemicals must be stored at the site, secondary containment, such as earth dikes or a surrounding berm, will be provided. Drums will be covered, whenever possible. If drums must be kept uncovered they will be stored at a slight angle to reduce corrosion and ponding of rainwater on the lids.

Loading and unloading of materials will occur at the specified locations where they will be used. Should prolonged storage of materials be required, a specific location for loading and unloading will be identified and noted on the Work Plan Area/Erosion Control Plan, at the time it is needed. Materials will be bundled and stacked neatly. Erosion control measures will be implemented to reduce storm water pollution from these areas.

Concrete/asphalt debris stockpiled on site will be collected and stored in designated location(s), and will not be mixed with other construction debris. Concrete debris and asphalt will be recycled, as appropriate.

Miscellaneous waste will be picked up weekly around the construction site. Specific areas targeted for pick-up will include erosion control devices, where waste will tend to collect.

A.4.7 SITE PERSONNEL CONTROL

All contractors and subcontractors will sign the SWPPP acknowledging that they will comply with the SWPPP.

A.5 STORM WATER MONITORING PROGRAM

The purpose of this storm water monitoring program is to ensure compliance with the General Permit and to evaluate the effectiveness and proper implementation of onsite BMPs in limiting the discharge of pollutants to storm water runoff.

A.5.1 TRAINING

Project Management and supervisory personnel shall be familiar with this SWPPP and trained in inspection requirements and the actions necessary to implement BMPs in this SWPPP and in the required inspection and reporting requirements. The general contractor will conduct site orientation classes related to storm water pollution prevention for all personnel, including subcontractors. All superintendents and foremen should be aware of storm water pollution prevention management practices, and understand the contents of this SWPPP and the General Permit, and their implementation strategies. This SWPPP will be onsite for reference with Trust PM.

Training will be conducted as appropriate on an ongoing basis to remind all personnel of the SWPPP. All maintenance, repair, monitoring, reporting, and inspection requirements of the SWPPP shall be conducted by trained personnel. The names and signatures of persons who have been trained in the required inspection and reporting requirements for the project will be kept with this SWPPP.

A.5.2 SITE INSPECTION PROCEDURES

Experience Trust or Geomatrix staff will conduct periodic inspections of the storm water system BMPs described in Section A.4.0 and the potential sources of pollution described in Section A.3.0. Inspections will be conducted to evaluate BMP effectiveness and to implement repairs or design changes. The inspection data will be reviewed to determine if any changes are required to maintain compliance with the conditions of the General Permit. Inspections will be performed by Trust or Geomatrix staff familiar with this SWPPP and experienced in the identification of non-compliance activities. Inspectors will have the authority to take corrective actions, if required.

To meet the requirements of both the SWPPP and General Permit, a minimum of one inspection per month is required. During dry periods, inspections should occur monthly. During storm events, inspections are to occur before and after each storm event and once each 24-hour period during extended storm events.

The name and contact information for the personnel responsible for conducting site inspections will be kept with the SWPPP during the project. In addition, records of all inspections, findings, and resulting actions will be kept on-site during the work.

A.5.3 STORM WATER SAMPLING

Sampling and analysis is required when non-visible pollutants have the potential to contact storm water and run off the construction site into a storm drainage system or water body at levels that may cause or contribute to exceedance of a water quality standard. If any of the following conditions occur, the impacted storm water discharge will be sampled for non-visible pollutants:

- Construction materials and compounds are stored or applied such that they may come in contact with storm water.
- A leak or spill occurs that is not fully contained and cleaned prior to a storm event.
- A leak or spill occurs, during a storm event, and it cannot immediately be isolated and/or cleaned-up, and the possibility of an off-site discharge exists.

Depending on the potential pollutants involved and potential impact to storm water, one or more of the following analytes may be analyzed for in the discharge:

- TPHg, TPHd and/or TPHfo by EPA Method 8015/EPA 3630A;
- BTEX and MTBE by EPA 8021B or 8020;
- Total cadmium, chromium, copper, lead, nickel, and zinc (EPA 6010-6020);
- PAHs by EPA 8270C SIM; and
- Any other pollutants that are identified as having a potential impact to storm water.

A.5.4 REPORTING AND RECORD KEEPING

A.5.4.1 Noncompliance Reporting

All instances of noncompliance with this SWPPP and General Permit must be reported to the RWQCB by telephone as soon as possible, but no later than 48 hours after the discharge has been discovered. A written report should be sent to the RWQCB within 14 calendar days of violation. Noncompliance reports should include:

- Type(s) of noncompliance; nature and cause of water quality standard exceedance.
- The BMPs currently being implemented.
- Description of actions undertaken and/or necessary to achieve compliance; any additional BMPs which will be implemented to prevent or reduce pollutants that are causing or contributing to the exceedance of water quality standards; any maintenance or repair of BMPs.
- Estimated implementation schedule for corrective actions.

The SWPPP and monitoring program will be revised promptly following issuance of non-compliance report to the RWQCB.

A.5.4.2 Record Keeping

The Trust will maintain all storm water inspection forms and training documentation as well as monitoring reports and noncompliance reports. Amendments will be made to this SWPPP and figures as major changes in site activity take place. These records will be included within the CAP Implementation Report.

A.6 SPILL PREVENTION, CONTROL AND REPORTING

All spills will be reported to the proper local, state, and federal authorities pursuant to all applicable laws and regulations. On-site personnel should not attempt to control major spills. A written report should be sent to all notified authorities.

A.7 POST-CONSTRUCTION EROSION AND STORM WATER MANAGEMENT

Once excavations have been backfilled, the Contractor will construct pavement sections consisting of six-inches of compacted aggregate road base below four-inches of asphalt concrete within Mason Street and the Contractor will place six-inches of compacted aggregate road base below two-inches of asphalt concrete within the Mason Street bicycle path and light-

use parking and drive areas. The Contractor also will replace curbs, gutters and utility vaults damaged or removed during the work and restore and re-stripe pavement areas.

The Trust will restore topsoil and vegetation in unpaved areas affected by the work. Top soil and vegetation affected by excavations or vehicle traffic in unpaved areas within Area A will be restored in accordance with NPS requirements. If seeding is used for restoration in the grassy area, weed and seed free erosion control blankets will be used. If sod is used to replace the vegetation in the grassy area, erosion control blankets will not be used. Anticipated post-construction BMPs are shown on Figure A-5a and A-5b; these figures should be revised during implementation, if necessary. These measures will be maintained by the Trust and/or NPS until the vegetation has matured to such a degree that artificial erosion control measures are no longer required. After construction is complete and long-term, post-construction erosion control measures have been installed, the Trust will file a NOT under the General Permit. After the NOT has been filed, the Trust and/or NPS will inspect and maintain the erosion control features if needed.

A.8 CONTACTS

In case of emergency contact representatives of the (Contractor to be determined) construction management firm for the project and the Presidio Trust:

Trust Contact:	Jennifer Yata	Office:	(415) 561-4272
		Cell:	(415) 760-1865
		Fax:	(415) 561-2132

Address: 1750 Lincoln Boulevard
Post Office Box 29052
San Francisco, California 94129-0052

Project Site Manager:	TBD	Office:	
		Cell:	
		Fax:	

Project Manager:	TBD	Office:	
		Cell:	
		Fax:	

Environmental support is provided by Geomatrix Consultants, Inc.:

Project Manager:	Michael Beck	Office:	(952) 935-1010 x.209
		Cell:	(612) 810-2495
		Fax:	(952) 935-1254

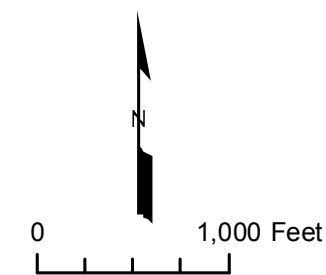
Alternate:	Gary Foote	Office:	(510) 663-4260
		Cell:	(510) 301-4201
		Fax:	(510) 663-4141

Address: 2101 Webster St, 12th Floor
Oakland, California 94612

A.9 REFERENCES

- Association of Bay Area Governments (ABAG), 1995, Manual of Standards for Erosion and Sediment Control Measures, Second Edition, May.
- California Regional Water Quality Control Board (RWQCB), 1999, Erosion and Sediment Control Field Manual 3rd Edition, San Francisco Bay Region, July.
- Geomatrix Consultants, Inc. (Geomatrix), 2006, Phase I Corrective Action Plan (CAP) Work Plan, The Presidio of San Francisco, San Francisco, California, April 26.
- IT Corporation, 1998, Site Investigation Work Plan, Commissary/Post Exchange Study Area, Presidio of San Francisco, California, October.
- MACTEC, 2004, Remedial Action Plan, Baker Beach Disturbed Areas 1, 1A, 2, and 2A and Twenty-Seven Other Sites, Presidio of San Francisco, California, September. (Includes updates through April 2005).
- Treadwell & Rollo, 2003, Draft Site Investigation Report Commissary/Post Exchange Study Area, Presidio of San Francisco, California, August.
- Treadwell & Rollo, 2006, Revised Final Corrective Action Plan, Commissary/PX Study Area, Presidio of San Francisco, California, April 2006.

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COMMISSARY/PX
SITE LOCATION MAP

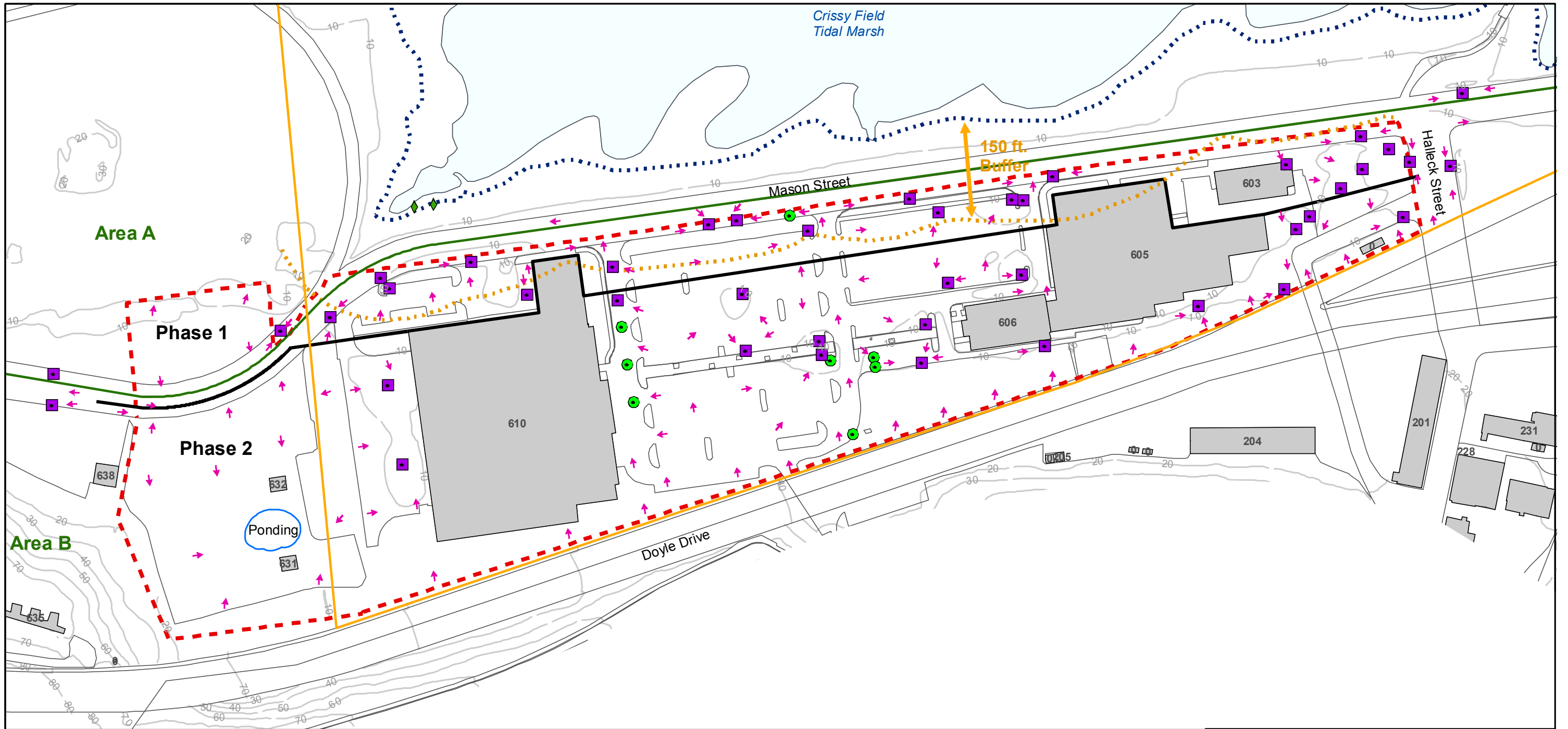


Presidio Trust

34 Graham Street
P.O. Box 29052
San Francisco, CA
94129-0052
415/561-5300
fax 415/561-5315
April 2006

FIGURE A-1

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Explanation

- | | |
|---|--|
| Surface Seep | General runoff flow direction based on observations made during storm events on December 31, 2005 and January 2, 2006. |
| Study Area Boundary | Area A/Area B boundary |
| Saltwater Ecological Protection Zone Boundary 9RWQCB, 2003). (Areas north and east of boundary lie within zone) | Effective Phase 1/Phase 2 boundary |
| Mean Higher High Water Level (MHHW) | Storm drain catch basin |
| Approximate 150 ft Buffer Zone | Storm drain manhole |
| Existing Structure and Identification Number | |

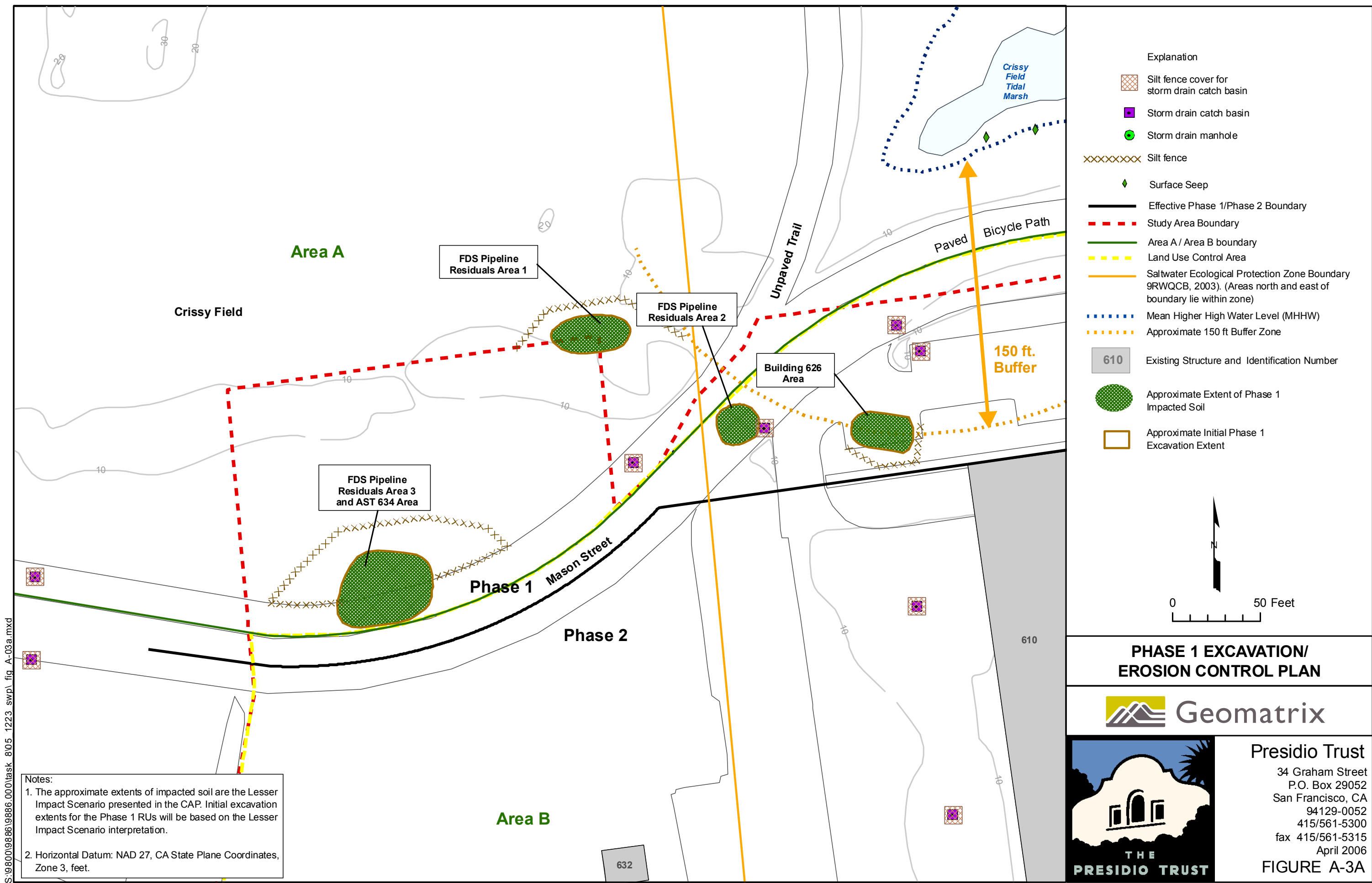
SITE PLAN WITH PHASE 1 AND PHASE 2 EXCAVATION AREAS AND TOPOGRAPHY

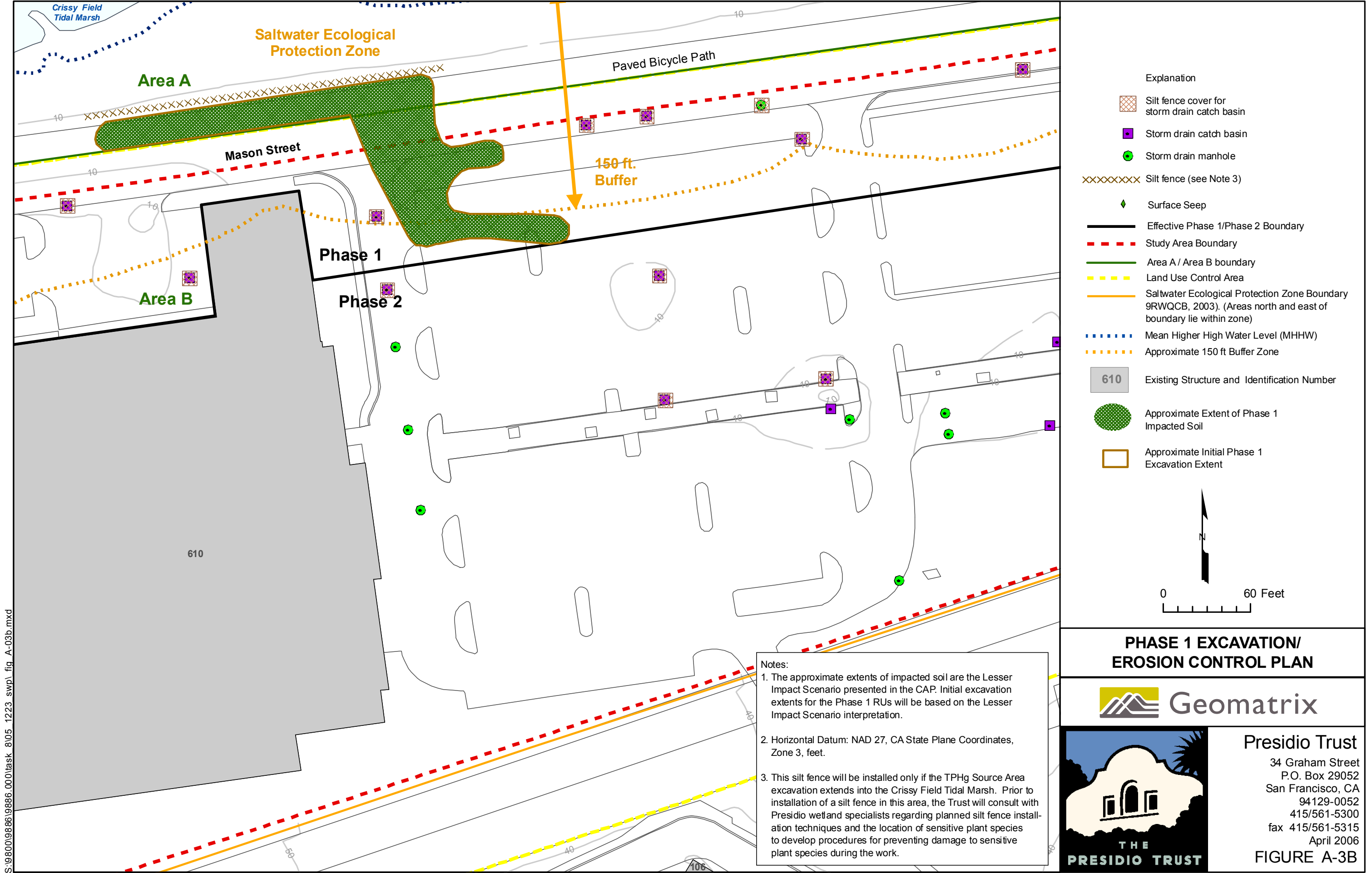


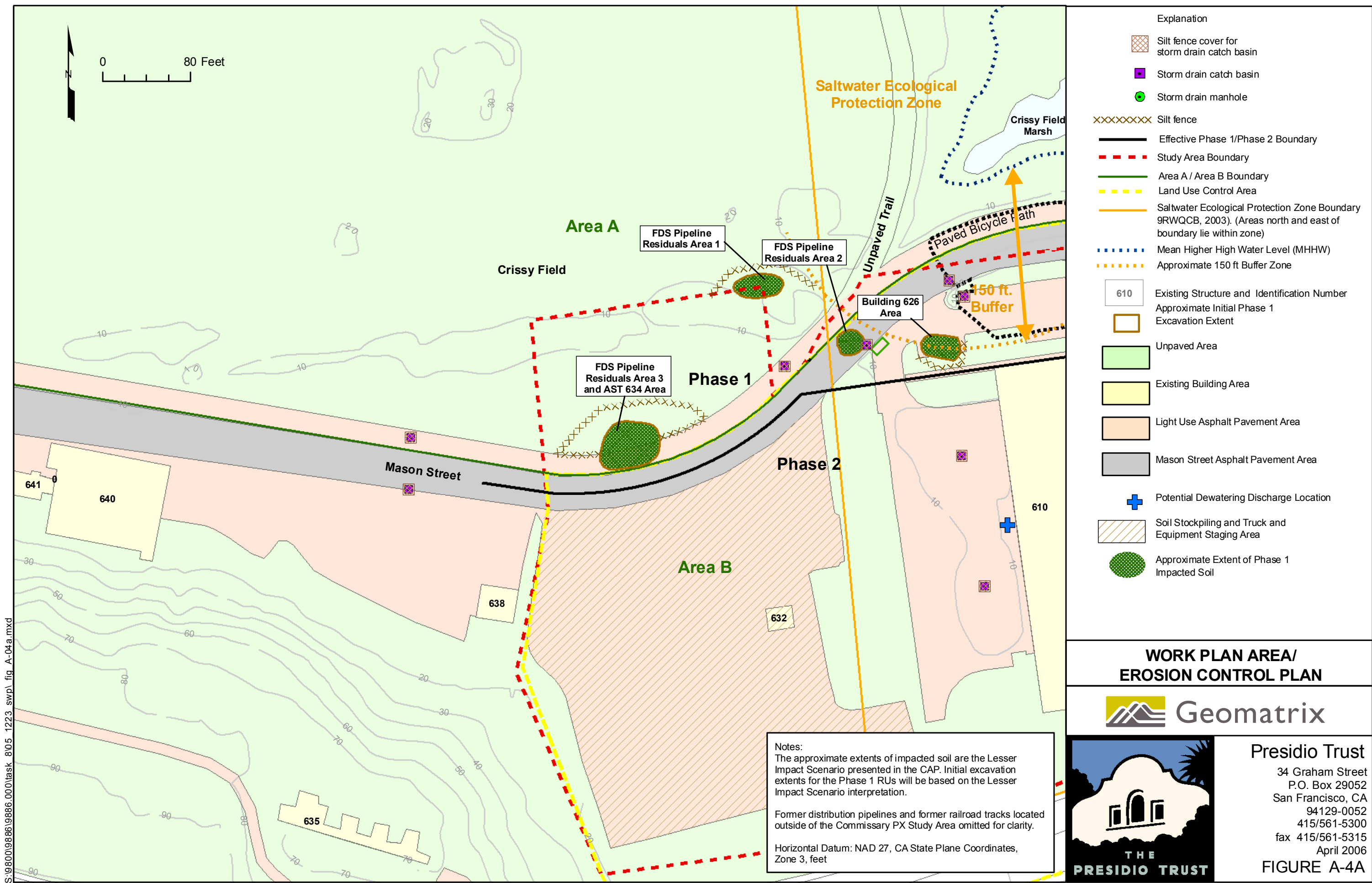
Presidio Trust

34 Graham Street
P.O. Box 29052
San Francisco, CA
94129-0052
415/561-5300
fax 415/561-5315
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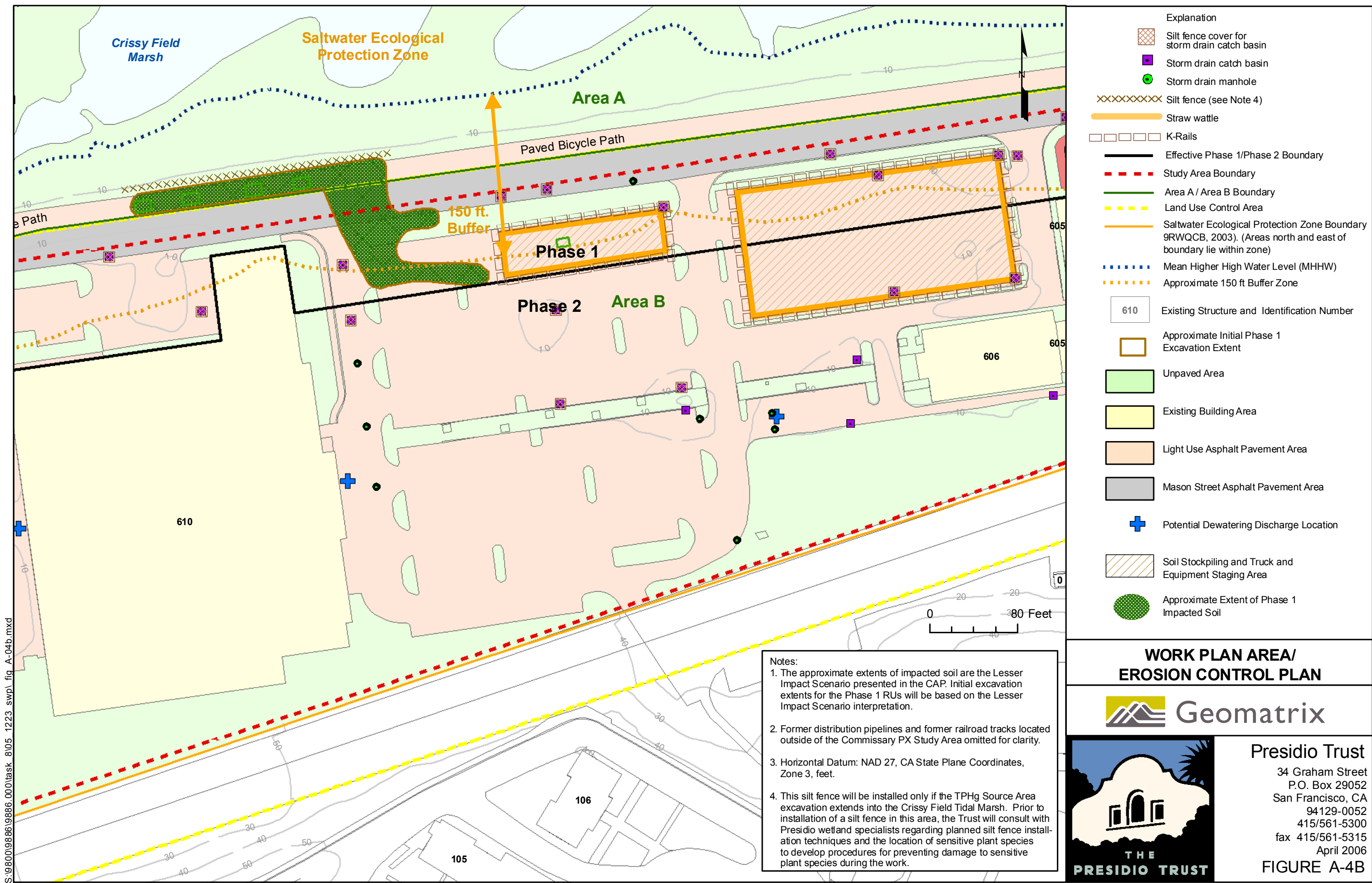
FIGURE A-2

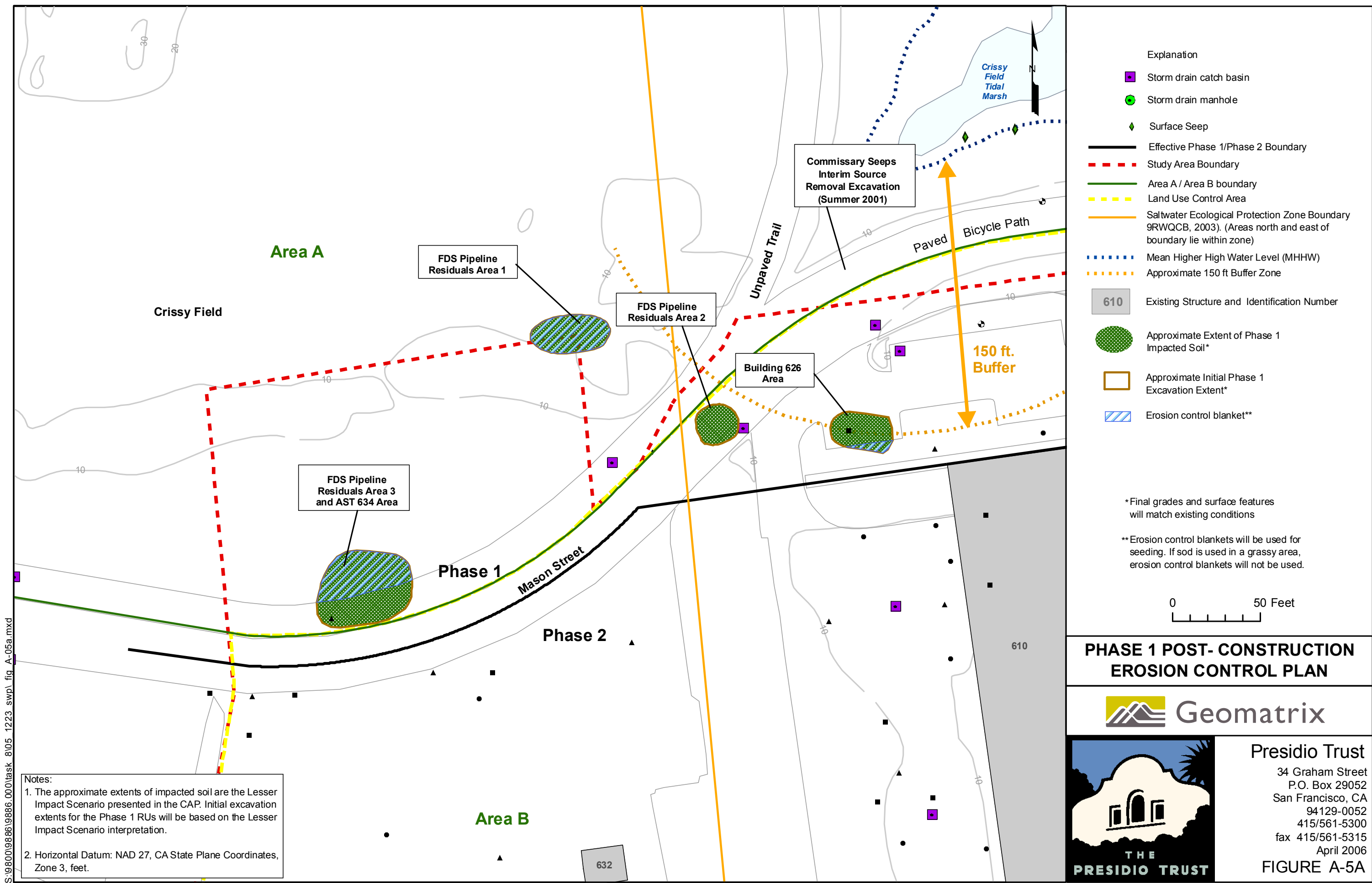


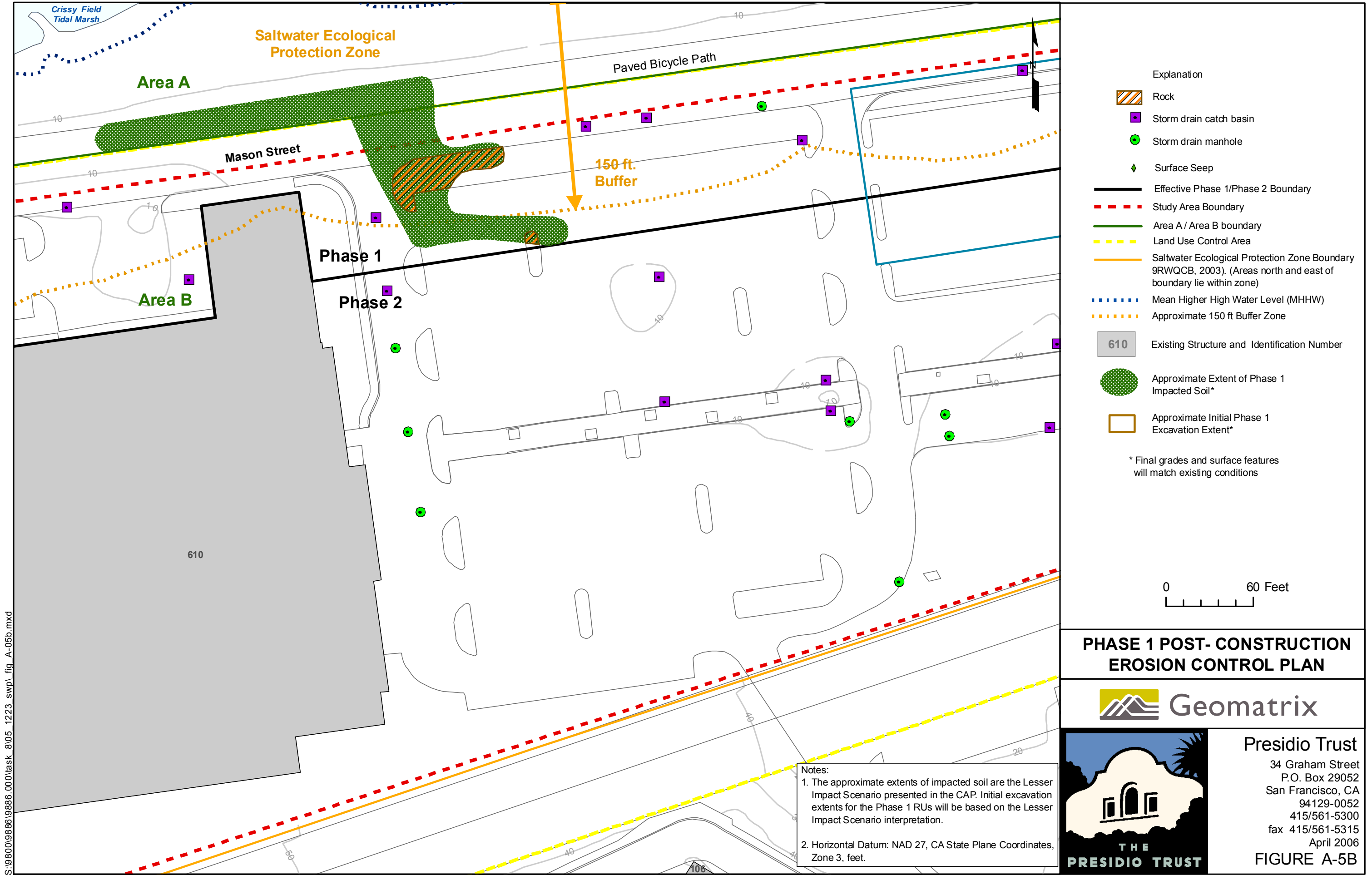




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